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Leading Articles

Churches and Their Furnishings

THE CENTRAL COUNCIL FOR THE CARE OF CHURCHES has done much to keep the laity in touch with the problems of the Church and with the steps which should be or are being taken to deal with these. The fifteenth report of the Council, entitled 'Churches and their Furnishings'* fully maintains the high standard of its predecessors. It is of special interest to architects and others concerned with the building, furnishing, care and maintenance of churches.

In an age when the Church is said to be losing its hold, it is interesting to note that in October, 1960, it was estimated that over 180 new parish churches (as distinct from churches rebuilt after war damage) and over 220 substantial dual-purpose buildings had been erected since the end of the war, as well as a considerable number of halls and mission churches for which no figures are yet available. THE VERY REVEREND SEIRIOL J. A. EVANS, Dean of Gloucester, Chairman of the Council, in an editorial commentary on the events of 1960-61, claims, indeed, that the last fifteen years have been a period of church building comparable to the latter half of the nineteenth century.

Simultaneously there is a serious problem of redundancy. The Report of the Archbishops' Commission held that for various reasons, such as replanning following war damage, the drift of population away from the countryside and the tendency of town dwellers to be replaced by commerce in the old inner suburbs, the problem of redundant churches is now so considerable 'that it needs to be dealt with by the Church and the nation in partnership.' It is estimated that 370 churches are at present redundant and that 420 are likely to become so in the next ten or fifteen years. Of this total of 790 churches, 440 are said to be buildings of considerable architectural merit and/or historic interest, while 86 possess such interest to a lesser degree. The preservation of such buildings and their adaptation to some suitable purpose are clearly matters in which the State should be forthcoming with generous help.

The architectural quality of some of our new churches comes in for serious criticism in the present report. The DEAN OF GLOUCESTER holds that 'compared with the many interesting and distinguished new churches being erected on the Continent, especially in France and Germany, ours —in many cases—seem to lack vitality and fitness for their purpose.' This view, by implication, is supported by the RIGHT REVEREND GLYN SIMON, BISHOP OF LLANDAFF, who, in a paper read to the Conference of members of Diocesan Advisory Committees at University College, Oxford, last year (reproduced in the report), said: 'All theologians are not architects, but all architects must, in some degree, be theologians; an architect who puts up a church and understands what he is doing creates a building which is instantly a church full of atmosphere, even if it was only opened the day before yesterday. *All* who hope to build a church must have at least a basic minimum of sound liturgical and theological knowledge and a considerable knowledge of the past history of the Church.' The Bishop gives much excellent advice on the adaptation of existing churches to present-day liturgical needs, on the lighting and form of churches and on the problem of stained glass.

Other features of the report include contributions

* The Church Information Office, Church House, Westminster, SW1. Price 5s.

on 'Altar Frontals,' by Joan M. Petersen, MA, FLA, Librarian to the Council; on 'Renaissance Monuments in Churches,' by Rupert Gunnis; on 'The Effect of Gas Heating upon Organs,' by Henry Willis, FRSA; on 'Church Bells, their Preservation and Use,' by R. W. M. Clouston, BSc; and on 'Spring-cleaning the Church.' There are twenty pages of illustrations in half-tone. Altogether a most interesting and useful report.

Institute of Builders Examinations

A YEAR AGO we applauded the intentions behind the new scheme of examinations published by the Institute of Builders. Teachers of building subjects were to be influenced to adopt an up-to-date and more scientific treatment of building technology and the responsibility for exerting this influence was to rest with the Institute's examiners; subject syllabuses could do no more than provide a bridgehead for their assaults. The first examinations have now been held and, besides the examination papers, the examiners' reports are available as a basis for appraising not only the initial gains but also the prospects for success of the operation.

The examiners have made a good start on a difficult task, maintaining continuity with current teaching but giving the questions unfamiliar twists to point the way towards more fundamental treatment of the subject matter. The general impression gained from reading the papers is that candidates will have found few questions to answer straight from their notes and that a clear understanding of current recommendations and of their application to practice will have been required for a good mark. That these requirements have not always been forthcoming is clear from the examiners' reports, and candidates' attempts to talk themselves out of their difficulties seem to have met with little success. The Management papers in Part II of the Final examination are of special interest, and here one senses that the examiners themselves will have gained valuable experience, in regard to the type of question most suitable to this particular examination.

These papers will be studied in the Colleges and observations from that quarter will, no doubt, be welcomed by the examiners. This is a worth-while operation that deserves the fullest co-operation of all concerned with forwarding the cause of building education.

Notes of the Week

Thornton White in England; Architects Rush In; Projecting the Image; Channel Tunnel or Bridge?; The New Banister Fletcher; Building for Refugees

PROFESSOR L. W. THORNTON WHITE, the irrepressible Head of the School of Architecture, the University of Cape Town, with Mrs. White, arrive in London on Sunday, September 10 on the first leg of a trip that will take them to France, Italy, Holland and Greece—a trip whose purpose (he writes) is 'to refresh my memory of several buildings (size, scale and emotional character) which may keep me on the rails in the design of the 1820 Settlers' National Monument, the sketch model of which has recently been approved, and at the same time to study how on earth several architects (notably Basil Spence at Coventry and the group at Arnhem) have managed to control a team of artists.' Over here, L. W. has been asked to discuss the scheme with Mr. Macmillan, Lord Euston, the British Council and possibly others, for the scheme is something more than a monument. He is hoping to discuss the project on Television.

The scheme which Thornton White has put up to the 1820 Settlers' Committee is for the reservation of several square miles near Grahamstown, Natal, as a Settler precinct, preserving within it a large number of historical monuments in the area; extending the Botanical Gardens as a nature reserve; extending the museum and library; and building on the top of a 2,200 ft. high hill a shrine, imaginatively housing the names of the original 4,000 settlers but available for national festivals of the arts, and with a 400 ft. high vertical feature to be visible throughout Albany. Part of the scheme will be to provide rooms for visiting scholars interested in the British contribution to South Africa—in Thornton White's words 'a centre of British culture (horrible word) in the Union (beg pardon, the Republic).'

* * *

THORNTON WHITE has recently had the pleasurable experience of presenting his elder daughter Janet for capping at the graduation ceremony by the Chancellor of Cape Town University. She is now working in his office as an assistant architect.

Architects Rush In

SIR THOMAS BENNETT'S outspoken arguments against the present system of architectural competitions have drawn many answers pro and con, with at least one from an architect with other radical ideas. Whether or not architects find themselves overworked or out of pocket if they participate in such competitions, the fact remains that they are becoming more numerous. Latest information, for example, in the contest for a new government building on the Broad Sanctuary site opposite Westminster Abbey, is that more than 200 architects have applied for details. Fuel is therefore added to the controversy on the side of the pros for it must be conceded by antagonists that such a large response is a point in favour of the system as it is now organised.

Projecting the Image

IN A RECENT critical analysis of television ad-men and their gullible public, it was stated that the main points of concentration, after a deadly preoccupation with cleanliness and hygiene, are those in the lowest common moral denominator—avarice, gluttony, envy and natural instinct. The conclusion drawn is that the television ad-men are a race of sinister philistines, moving around under a cloud of soap powder in a nervous world where sanity is maintained with sticky tranquillisers and 'safer' analgesics. The public, to whom they pour out their dedicated messages in noisy superlatives, have been variously described as happy, greedy and ignorant. Whilst architects and other professions cannot for obvious reasons indulge in this kind of relationship with the general public, the popular weekly documentary, in which improbable situations and moments of high drama are contrived, may present a rather more subtle way to project their image.

If such highly regarded professions as medicine, law and teaching can be used as the basis for semi-documentary serials then surely the offices of fictitious architects and builders could provide similar inspiration for the television producers. Such a story could be informative as well as simply scripted, as are all the others, to provide another popular programme which would allay the current ignorance of the public at large about the precise nature of the architect's function. Apart from the odd feature item the architect has progressed no further than being a devotee of Woodbine cigarettes in one commercial and getting himself put on probation in another semi-documentary.

Channel Bridge or Tunnel?

BRITAIN'S application to join the European Common Market has revived interest in the formation of a permanent link across the English Channel, either by the long-proposed tunnel or by a bridge, which modern civil engineering techniques have now made practicable. In France, where enthusiasm for a link of this type has often been stronger than in this country, it is felt that if Britain enters the Common Market a bridge or tunnel connection with Europe would mean that we would be less likely to linger near the entrance, but would go right in.

A new proposal for a bridge, which is illustrated on this page, comes from a French organisation. Another project for a bridge, worked out by Sir E. Owen Williams, KBE, and estimated to cost £175m., was illustrated in 'The Builder' of November 18 last. It is now reported that official talks, probably in Paris, have been provisionally arranged to take place this month between the British and French Ministries of Transport to examine proposals for a Channel tunnel or bridge.

It is understood that the French Government has not indicated any preference for either a bridge or a tunnel. Exponents of a tunnel say that it would cost less to construct than a bridge, but it would not form such a direct communication for motor vehicles which, owing to the fumes problem in a tunnel, would have to be loaded on to a train for the undersea crossing.

* * *

WHILE controversy continues on the merits of a bridge or tunnel for the Channel, it is announced that work will begin in a few weeks' time on the Tyne road tunnel. This will be almost exactly a mile long and will stretch from Howdon to Jarrow. The internal diameter of the finished tunnel (lined with cast iron) will be 31 ft. 3 in., and construction of the main bore is expected to take three-and-a-half years. A contract for the work to the value of £5,403,203 has been awarded to Edmund Nuttall, Sons & Co., who have now practically completed their section of the Dartford tunnel. The whole project, including approach roads, is expected to cost £12½m., and may take five years.

The New 'Banister Fletcher'

WORKS OF REFERENCE are not usually launched on the world with champagne and caviar, least of all revised editions. It is therefore a measure of the esteem in which Sir Banister Fletcher's 'History of Architecture' is held that a revised edition, the seventeenth no less, was thus inaugurated ten days before its publication. The reception given at the Royal Institute of British Architects on August 28, attended by a packed gathering of those who 'fought' the massive volume during their student days, marked two interesting phases in its fifty-seven years. The new edition has been transferred from Messrs. Batsford Ltd. to the Athlone Press, the University of London's own publishing organisation; it is the first to be published since the death of Fletcher in 1953 and as such the first revision by a 'new' hand. The revision has been made by Professor R. A. Cordingley of Manchester School of Architecture, who presented a copy of the new volume to Lord Birkett, chairman of the Court of London University. The latter, having been introduced by Maxwell Fry, recounted his friendship with the author during his residence in the Middle Temple. The book is larger and more expensive than its predecessors, but its market is assured.

Building for Refugees

MEN SKILLED in the building trades are urgently needed to help a group of volunteers who are working to build houses for refugees in the desperately poor village of Filiates, in northern Greece, close to the Albanian border. The team has been sent by the International Service Department of the United Nations Association. Many of the buildings in the village were damaged as a result of the fighting between the Greeks and the Albanians at the end of the last war, and families of Greek refugees from Albania are living there in shocking conditions.

The village authorities, the Greek branch of the World Council of Churches and the UNA team got together several months ago and chose 10 families from the hundreds who badly need houses. The team is building 10 single-storey houses of simple design, with funds collected in Britain during World Refugee Year. So far the work is up to schedule and is well within the budget. The land was given by the Greek Department of Agriculture, most of the building materials are ready to hand and the refugee families themselves are working hard in co-operation with the UNA team.

From now until December the urgent need is for bricklayers, plasterers, carpenters and an electrician. Board and lodging is free and grants are available for travel. Anyone who can help this deserving cause (for a period of at least one month) should write or telephone as soon as possible to: International Service Department, United Nations Association, 25 Charles-street, London, W1 (tel. Grosvenor 2784).

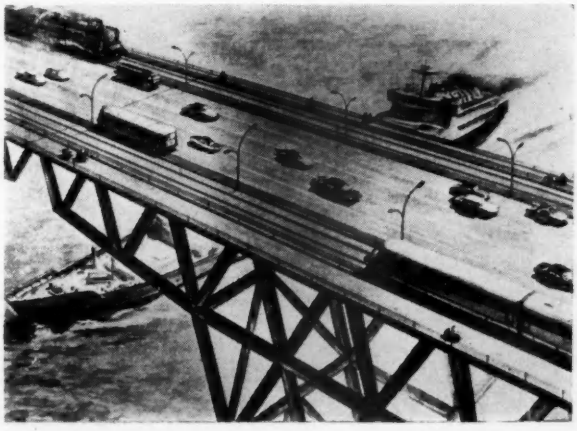
Poet's Corner

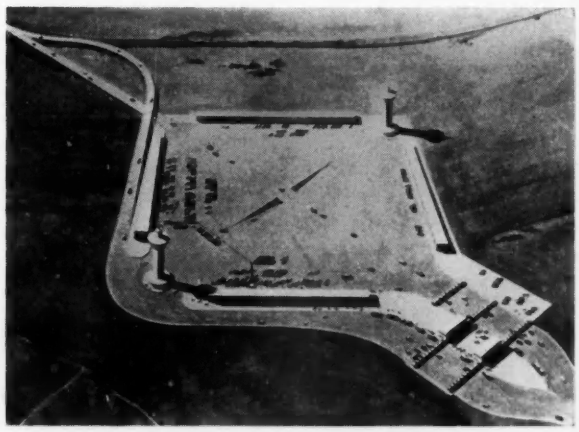
A LIVELY DISCUSSION has been aroused by Sir Thomas Bennett's letter in 'The Builder' of August 18, suggesting a revision of the competition system.

Those games of chance within the rules,
Bingo and Premium Bonds and Pools,
The Stock Exchange and gee-gees, too,
Bestow their prizes on the few.
Now some suggest that such conditions
Should not apply to competitions,
Though many men have made a name
(Inscribed upon the scroll of fame)
Of which we should have heard much less
But for a hard-won comp. success.
The competition helps to train,
Sharpen and stimulate the brain;
Banish, amend it? Not at all!
Leave us our dear old 'free-for-all'!
For though it tempt not the élite,
Many will willingly compete.

ANON.

FRENCH PROPOSAL FOR CHANNEL BRIDGE.—*An artist's impression of a proposed bridge to link England and France over the English Channel. The project has recently been put forward by the French Société d'Etude du Pont sur la Manche. It would be 21 miles long, and 330 ft. above sea-level, supported by 164 pillars, and would run from Cap Blanc Nez, near Calais, to Dover. The bridge would have five traffic lanes, plus two for two-wheeled vehicles, and two railway tracks. Right: A model of the the proposed car-port at Cap Blanc Nez, which forms part of the overall scheme*

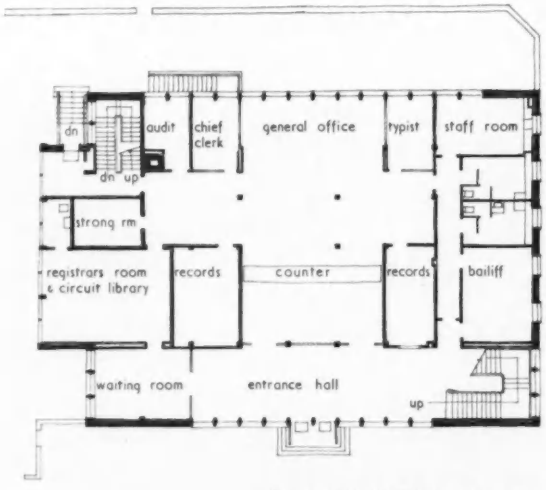




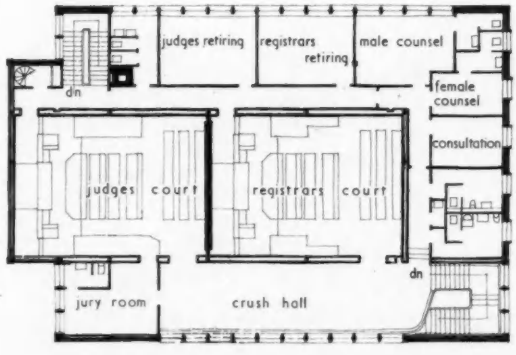
County Courts, Kingston

CYRIL G. PINFOLD, ARIBA. AMTPI, senior architect, MoW
JOHN W. MASSON, ARIBA, DIP ARCH, assistant architect
W. E. CHIVERS & SONS LTD., general contractors

main elevation to St. James's-road



GROUND FLOOR, Scale: 1 in. = 32 ft.



FIRST FLOOR

THE NEW COUNTY COURT in St. James's-road, Kingston-upon-Thames, was completed by the Ministry of Works and handed over in June, 1961. The site is a triangular plot behind the municipal offices, bounded on one side by the River Hogsmill and, on the third side, by St. James's-road, which was the obvious choice for the main elevation.

It is a reinforced concrete frame building of two storeys, with in-filling of Dorking red multi-coloured 2in. facing bricks. Perimeter columns and the projecting entrance porch are faced with slate. The main entrance doors are of anodized aluminium. Above the doors is an aluminium replica of the Royal coat-of-arms, cast in relief. Aluminium is also used for the large window frames throughout the building, extending from near ground level to eaves course on the front and side elevations.

Roofing is copper at 20 deg. pitch. Portland stone is used for plinth courses, quoins and parapets. The open forecourt is paved in York stone.

One wall of the courtroom has a veneered panel of figured walnut, bearing the Royal coat-of-arms in gold leaf. Side walls are of light coloured plaster, the back wall and ceiling being of acoustic tiles. Clerestory windows admit day lighting. Purpose-made furniture is of walnut with grey leather upholstery, and blue carpeting covers the daises.

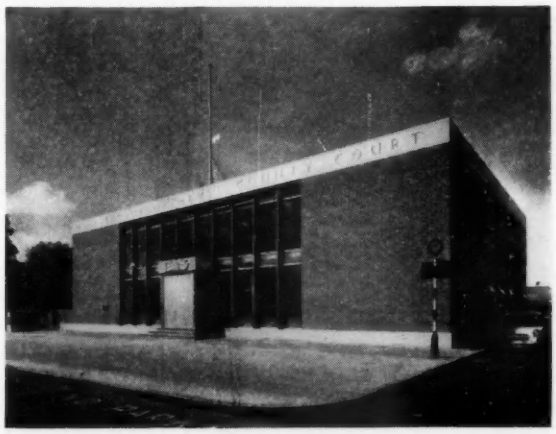
The main staircase rises up to the crush hall at one end and at the other end is a room that can be used for consultation or, having direct access to Number 1 Court, can be used as a jury room if need be. The staircase, constructed of in situ concrete, is finished with oak treads and risers and a metal balustrade with oak handrails.

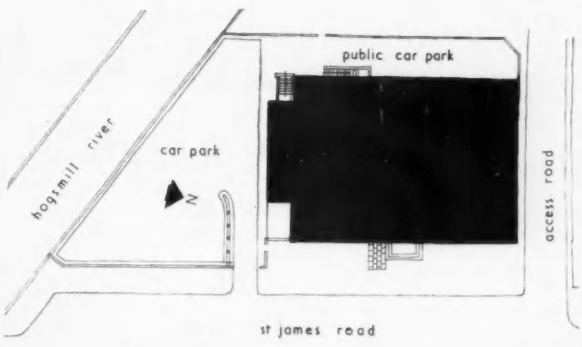
The decorative scheme for the building, in general, is pastel shades for walls and darker tones for doors, ceilings and internal columns. Flooring generally is linoleum, and cork in the court rooms. Clear glass screens of side offices are framed in sapele.

Service ducts and conduits for the building are taken between the upper floor and a suspended ceiling over the general office area. The boiler installation is an automatically controlled oil-fired type, feeding radiator and convector units.

main entrance doors and coat-of-arms in aluminium

general view from north





County Courts, Kingston

Top, Judge's Court, toward the bench. Above, registrar's court. Right, first floor crush hall

sub-contractors & suppliers:

Aluminium windows and doors: Williams & Williams Ltd.; *stonework:* Albion Stone Masonry Ltd.; *slate facing:* Setchell & Son Ltd.; *asphalt roofing:* Pilkington Asphalte Co. Ltd.; *glazing:* Faulkner Green & Co. Ltd.; *plumbing:* J. Sykes & Sons (Heating Engineers) Ltd.; *terrazzo flooring:* Alan Milne Flooring Ltd.; *heating & ventilation:* Hinton Jones (Engineers) Ltd.; *electrical:* Alpha Electrical Co.; *carved coat-of-arms:* Fredk. Sage & Co. Ltd.; *aluminium coat-of-arms:* designed and modelled by James Woodford, OBE, RA, and cast by the Morris Singer Co.

Ventilation of the courts is provided by inlet and extract fans, one each per court. Air is drawn in from outside, passed through filters and delivered to the courts through grilles mounted in convectors either side of the court daises. In winter the air is heated by the convector element before delivery to the court. The air is extracted through grilles fitted in the court ceilings and discharged to the outside of the building by the extract fans. Each court has its own push-button control panel so that ventilation can be applied as and when conditions necessitate. The fixed price contract was for £69,000.

Senior mechanical and electrical engineer: G. C. Kim, AMIEE; senior structural engineer: R. J. R. Hancock, MBE, AMIMechE, AMICE; senior public health engineer: R. V. Lindsley, ARICS, FIPHE, MRSH.

Letters to the Editor

Competition System Under Review ; Suburban Redevelopment ; The Round Square

SIR,—To many architects, old and young, there must be a fascination in competitions or they would never have persisted for so long. The possibility of winning fame and fortune as a young man, by one success, seizes the imagination of many, but I have come to the conclusion that for the vast majority it is an unsound method of occupying an important amount of time in working out a problem which to me has always had many aspects of unreality. The same amount of time spent in doing commissioned work outstandingly well is still as true of small commissions as it is of large ones, and eventually the architect produced is very much more able, much more competent and a much better architect.

There will always be a certain number of competitions which bring to light a design of outstanding merit or unusual quality, but there are many more where the winning design owes its success to some completely adventitious factor, and for the great majority their time would be better spent seriously studying design, construction and economics which combined make fine architecture. Draughtsmanship can win a competition, but it cannot produce a fine building. The package deal is appearing because, in the opinion of many businessmen, architects are only superficial designers of the outside skin, and to this extent not competent architects.

The competition tends to foster complete concentration on planning and design instead of on fine building. Undoubtedly the opportunity to plan and design an extensive building project has some value in the training it affords a competitor, whether he be young or old. The tempting bait of a spectacular win in a competition will perhaps always lure many men to enter as long as competitions are run, but I have no doubt whatever that the open competition is extremely bad for the study of architecture and for the profession as a whole.

T. P. BENNETT [KBE, FRIBA],
43 Bloomsbury Square, WC1.

SIR,—I read with interest Sir Thomas Bennett's letter in your issue of August 18. I caught the competition fever well over fifty years ago, first of all as a student and then in the usual run of architectural competitions, with, by the way, practically no success. I suppose the money I have earned in fees and premiums has probably paid me somewhere about 3d. or 4d. an hour for work done on competitions generally.

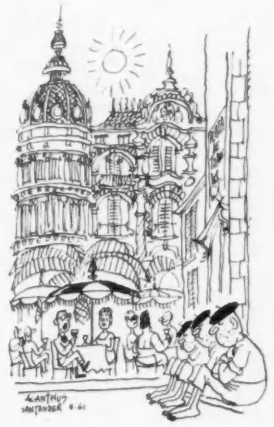
The profession as a whole is very much indebted to Sir Thomas and people like him who, over the years, have managed to introduce reforms in the way of presenting schemes to the assessors. When one recalls that in early days almost without exception all drawings had to be done to a scale of ¼ in. in Indian ink with walls blacked in, ditto ½ in. scale details and also a perspective view demanded in black and white or in colour, one appreciates the very much reduced amount of work entailed in a modern competition, i.e., $\frac{1}{16}$ in. scale drawings finished almost anyhow, no perspectives and only sketch details, if any. This is not to say that other improvements are not possible, but I do not agree with Sir Thomas's suggestion that competitions should only be approved when everyone competing is paid a substantial fee. To start with, this would be a most difficult matter to organise. Instead of a couple of hundred people entering for a competition, you would have a couple of thousand and, generally speaking, with most unsatisfactory results.

What Sir Thomas has not taken into consideration is the educational value of competitions, particularly for a young architect. I doubt if there is any better training and many architects in the past have established their position as a result of the competitive system as at present run. Let me give you one instance. The late H. T. Hare was reputed to have entered for over 100 competitions before he achieved success, but once he started winning he went on and I have no doubt your readers will know of other examples. Also without doubt any architect who takes the trouble to work through a few competitions will find himself much more skilful in dealing with his ordinary day-to-day run of work, particularly when preparing preliminary schemes for the consideration of clients. He will find that solutions come to his hand without difficulty and much better solutions than if he had never pitted his wits against those of his professional colleagues.

Improvement, however, is possible, and I suggest it can be done as follows: In all cases preliminary competitions should be held calling for the merest sketches and from these anything from 10 to 20 schemes should be selected for development and a small premium paid in each case. These schemes again need only be of a sketch character. In issuing the conditions of the competition, competitors should be told that when the 10 or 20 designs have been sorted out they will be published in brochure form, and that three or four architects would be selected to compete again with all the evidence of the previous competitions before them. The final scheme could then be selected from these three or four. By this means a reasonable remuneration could be paid to a fairly large number of architects but, what is more important, the competitive system could be used in such a way as to produce the best possible solution.

One other proposal. I suggest that any architect who reaches the final stage of the competition held on this basis and approved by the RIBA should be immediately registered as an architect, no matter what his educational or other background may be. This would open up another avenue of entry into the profession, which is very much wanted at the present time. Today practically the only entry is through one of the registered schools and these to a great extent are becoming the preserve of the well-to-do man's son or daughter. Ordinary people who have to start earning their living at an early age have neither the money nor the time to go through the five- or seven-year course. I close by reminding you that in the past our most able architects got their education by the actual practice of architecture, either as assistants or principals, and the above scheme would again open the profession to people of this type.

THOMAS BRADDOCK [FRIBA],
Orchard House,
14 Great Smith-street,
Westminster, SW1.



'With the Common Market this could be Torquay next year!'

Suburban Redevelopments

SIR,—The concreting over of suburban gardens, to which your correspondent 'Suburbanite' called attention last week, is increasing rather alarmingly. It arises not only from the provision of garages and hard-standings in schemes of redevelopment, but from the reluctance or inability of suburban dwellers to look after their gardens or from the need or desire to use these for car-parking. When this covering over is done with, say, York paving, with reasonable spaces left for plants, it can look quite attractive, but more often than not it is done with plain concrete, which generally has a most depressing appearance.

But apart from the question of æsthetics, what of the physical consequences? With redevelopment increasing and likely to go rapidly ahead on a great scale, we are faced with the prospect of enormous areas of land being made impermeable to water. I am not expert enough to say what the precise effect will be of all this surface water going down the drains, but I should think it must have a detrimental effect on foundations, especially those that depend for stability on the water level, to say nothing of the drying-up of a considerable source of replenishment of underground supplies.

This is a matter that should be looked into promptly by our water and local authorities while there is time to deal with it effectively. It may ultimately be necessary to make and enforce by-laws to preserve a certain proportion of a site from coverage, with appropriate recommendations for landscaping or the preservation of vegetation.

G. J. HOWLING [HON. ARIBA],
126 Queen's-road, SW19.

'The Round Square'

SIR,—In the article on 'The Round Square' ('The Builder,' August 11) I was interested to read of the reasons for using the various types of timber in the reconstruction of the roof. Dahoma was used because it has a 'built-in' resistance to attack by wood-boring insects, Oregon pine was treated with a preservative, but the oak section was untreated.

I cannot believe that those responsible for the reconstruction of the building could be so naïve as to think that, because the original oak tile pegs were not attacked by woodworm, oak is naturally resistant to insect attack, and it would seem that if the lessons of the treatments of oak timbers in hundreds of churches and other buildings all over these islands to eradicate infestations of wood-boring insects are to be heeded, then surely the wise thing to have done would have been to treat the oak timbers with a wood preservative.

Probably the most commonly encountered insect which attacks hardwood, such as oak, is the Death Watch Beetle (*Xestobium rufovillosum* De Geer). This insect will attack the sapwood and heartwood of hardwoods which have become decayed by fungal attack; this often occurs in the built-in parts of timbers such as wall plates, tie-beams, etc. The female adult lays its eggs on the surface or in a crevice of the timber in clusters of three or four and totalling about 50 to 70 in number. After some two weeks or more these hatch into larvae which bore into the timber and there remain for between three and five years, tunnelling to and fro. At the end of this period they come to just below the surface of the timber where the larva changes into a pupa, or chrysalis, and after some seven months it emerges as an adult insect to mate and re-infest the timber.

At a cost of between £15 and £20 per standard, timber can be protected against all insect and fungal attack, a very small price to pay compared with in situ treatments to eradicate such attacks. Indeed, at the 1961 Annual Convention of the British Wood Preserving Association, in a paper presented by the general manager of the largest timber pest eradication company in the United Kingdom, it is said that '. . . all concerned . . . will render this country an enormous service by advocating the preservative pretreatment of . . . timbers.'

It appears that perhaps this interesting building has not yet seen the last of its troubles due to the misleading oak pegs in 'The Round Square.'

S. J. HOLT,
9 Old Orchard,
Byfleet, Surrey.

Competition News

Ideal Home/RIBA Group Housing Competition

ARCHITECTS ARE INVITED, in a new competition sponsored by 'Ideal Home' magazine in association with the Royal Institute of British Architects, to submit designs suitable for developing either or both of two sites, each of just over 4½ acres, at Harlow New Town, Essex, and Stockport, Cheshire. This includes both the design of individual dwellings and their grouping on the sites.

The increasing scarcity of building land, coupled with rising costs, demands economic development no longer restricted by arbitrarily low density limitations. The promoters believe that it is essential to produce schemes both economic to purchasers and profitable to developers by means of increased density, and that intelligent group-planning can give an environment of spaciousness with family privacy within a closely knit neighbourhood. For the Harlow site a mixed development, with a minimum of 15 dwelling units to the acre, is desired. The selling price of the largest units will not, it is hoped, exceed £5,000, excluding land.

The Stockport site also requires a mixed development but with a higher density (at least 20 units to the acre) and a lower suggested maximum selling price of £3,000. The two authorities concerned, the Harlow Development Corporation and the County Borough of Stockport, have agreed to permit appropriate development of the sites without any preconceived density limitation.

The developers designated for the Harlow site are the Laing Housing Co. Ltd., Mill Hill, London, NW7, and those for the Stockport site are Messrs. Hampson & Kemp Ltd., Crossland-road, Manchester 21. The assessors are Sir Basil Spence, OBE, RA; Mr. Donald Gibson, CBE, FRIBA; and Mr. G. Grenfell Baines, OBE, FRIBA. Premiums for each site are £1,000, £350, £200 and six special awards of £50. Fees for architectural services required in building the two winning schemes will be paid according to the RIBA scale and will be in addition to the premiums. The last day for submitting designs is January 2, 1962.

Competitions Open

* *The date in italics refers to the issue of* The Builder *in which fuller details appeared.*

GOVERNMENT OFFICE BUILDING AND CONFERENCE CENTRE.—Competition sponsored by the Minister of Works for architects resident in the UK to submit designs for an office and conference building proposed to be erected on a site at Broad Sanctuary, Westminster. Assessors are Sir William Holford, MA, PRIBA, MTPI, Sir Leslie Martin, PhD, FRIBA, and Mr. Eric Bedford CB, CVO, ARIBA. Premiums of £3,000, £2,000 and £1,000 are offered for designs placed first, second and third respectively. The sum allocated for the building is £800,000. Last date for submission of designs is October 2; last date for questions, May 1. Conditions on receipt of a returnable deposit of £2 from the Secretary, Ministry of Works (AS8L), Lambeth Bridge House, London, SE1. *March 10.*

MOTHERWELL AND WISHAW CIVIC CENTRE.—The Town Council of the Burgh of Motherwell and Wishaw invites architects resident in the UK to submit designs in a two-stage competition for a civic centre, to include public halls, municipal offices and shopping development. Six successful competitors in first stage will be invited to submit more detailed designs for the second. Each of the six will receive £500, and the premium for design placed first will be £1,000. Assessor is Mr. A. G. Sheppard Fidler, MA, FRIBA, AMTPI; last day for submission of designs in the first stage is June 1, and in the second, November 1; last date for questions is April 1. Conditions from the Town Clerk, Town Hall, Motherwell, deposit 1 guinea. *February 3.*

HOUSING FOR WATFORD RDC.—Competition sponsored by Watford Rural District Council for mixed residential development at Bedmond village, Abbots Langley, Herts. The assessor is Mr. Clifford Culpin, OBE, FRIBA. Premiums: £750 for design placed first with a further £750 to be divided in such proportions as the assessor may decide between the authors of the next four designs. Last date for questions is September 2; designs returnable by December 12. Details and site plan from the Clerk to the Council, Watford RDC, Wynyard House, Langley-road, Watford, Herts. *August 11.*

CIVIC CENTRE, JOHANNESBURG.—Competition open to architects registered in South Africa and to those who have passed the RIBA final examinations or equivalent for a new civic centre at Braamfontein. Assessors: Mr B. L. Loffell, city engineer, Professor Sir William Holford, Professor J. Fassler, Mr. John Cowin and Mr. Norman Hanson. The competition is in two parts and premiums of £1,500, £1,250, £1,000 and £750 will be awarded for Part 1. Awards totalling £2,000 are offered additionally for Part 2. Details of qualifications from intending competitors by October 6; last date for receipt of designs is June 8, 1962. Conditions from Town Clerk, PO Box 1049, Johannesburg, S. Africa. Dep. £5. *August 11.*

NEW COUNTY OFFICES, READING.—This competition, sponsored by Berkshire County Council and open to architects on the ARCUK register, for county offices proposed at Reading, has been postponed. The Council has acquired an additional area of land which it is proposed to incorporate into the competition site. The postponement is therefore merely to enable the schedule and conditions to be amended and the dates to be reviewed. Revised documents will be sent automatically to intending competitors. (*March* 10.)

An Exciting Cricket Match

THE DESIGN RESEARCH UNIT recently challenged Owen Luder's office to a cricket match, a challenge which was taken up in a game at Regent's Park. Both sides fielded full teams and the extremely close match ended in a very narrow victory for Owen Luder's office by eight runs.

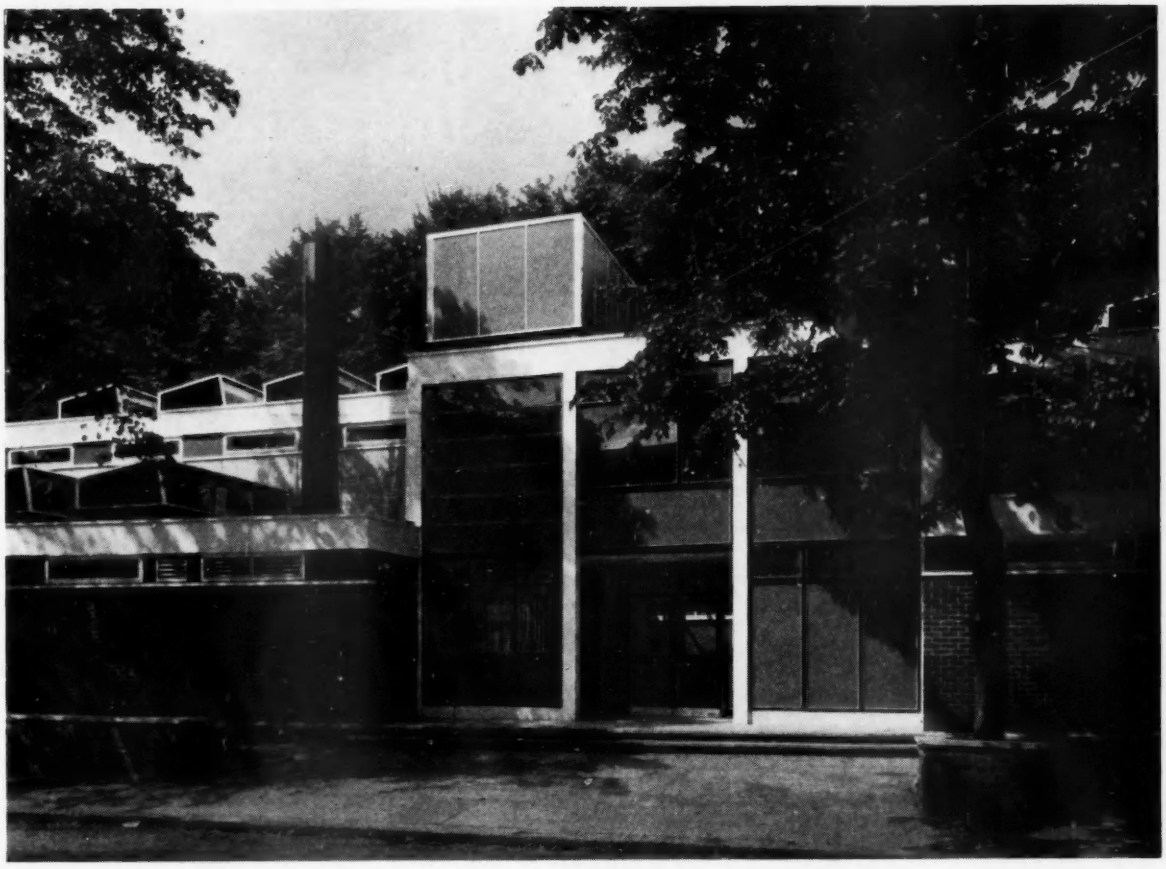
Owen Luder's office batted first scoring a total of 95 runs, the batsmen to reach double figures being Harbinson—28, Peel—15, Dartnell—14, and Owen Luder —13. Design Research Unit scored 87 for 9 and were 8 runs short with one wicket in hand when the requisite number of overs had been bowled, the result of the match being in the balance until the very last over of the game.

Both players and spectators retired for suitable liquid refreshment after this closely contested match.

Greencoat Science Building

Wilson's Grammar School, Camberwell

ARTHUR KENYON, TAUTÉ AND PARTNERS, architects
HOLLOWAY BROTHERS (LONDON) LTD., general contractors

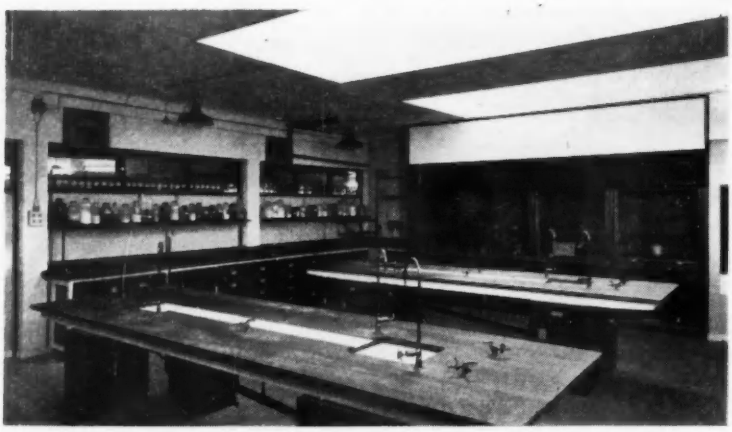


main entrance

general view showing the high level windows

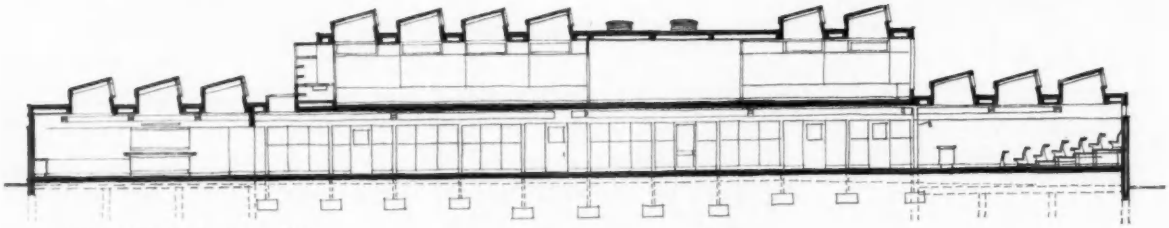
THIS TEACHING LABORATORY, opened in July, 1961, by Professor P. M. S. Blackett, FRS, represents a new concept in school science buildings. There are no conventional windows, evenly distributed daylight being obtained by roof lighting on the factory principle. This leaves all wall surfaces free for equipment and fittings and eliminates outdoor distraction from the students' view.

The ground floor has a spacious central corridor serving two lecture theatres, two chemistry laboratories and two physics laboratories, with workshop, preparation rooms and stores. There is also an enclosed walled garden with a pool and aviary for biology specimens. The first floor accommodates two biology laboratories, a greenhouse, preparation room and science master's room.



advanced chemistry, ground floor

central corridor, ground floor



LONG SECTION. Scale: 1 in. = 24ft.

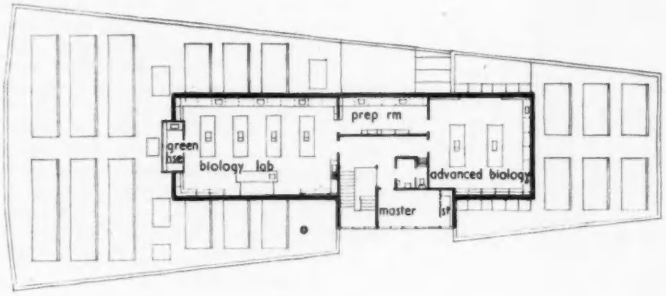
general chemistry, ground floor

The building is constructed in reinforced concrete with concrete floors and roof. Externally it is faced in dark brickwork up to first floor level. Heating is by hot air from an oil-fired boiler.

The science block has been designed and planned by the architects in the simplest possible terms, with the sole object of producing a building which would immediately reveal its own function as a place where science is taught. The mechanics of the structure are displayed instead of being concealed. Piping and ducts for electricity, gas, water, hot air and drainage are all exposed to view and painted in the colours of the industrial code so that their function and course can be followed through the building. The equipment has also been arranged to display its 'works' for the students' instruction. This arrangement has the further advantage of ensuring facility of access should any alterations or additions be required in the future.

sub-contractors & suppliers:

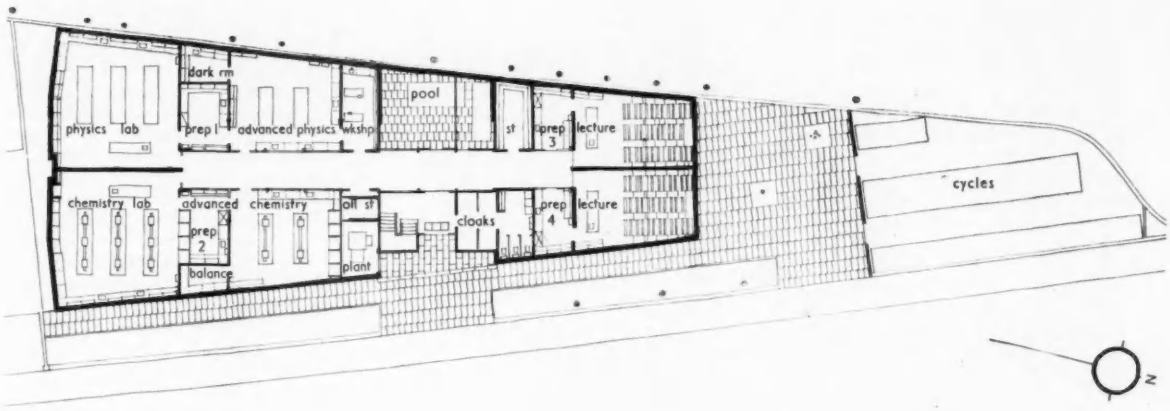
Electrical contractors: A. H. Cornwall & Sons, Ltd.; *flooring:* Rieber & Sons, Ltd.; *windows:* The Crittall Manufacturing Co. Ltd.; *heating and ventilation:* Advanced Heating and Air Conditioning Co. Ltd.; *marble linings:* Anselm Odling & Sons Ltd.; *balustrades and gates:* Clark, Hunt & Co. Ltd.; *sanitary ware:* Dent & Hellyer Ltd.; *bicycle stands:* Alfred Odoni & Co. Ltd.



Greencoat Science Building

GROUND AND FIRST FLOOR

Scale: 1 in. = 40 ft.



biology laboratory, first floor

More Everyday Things

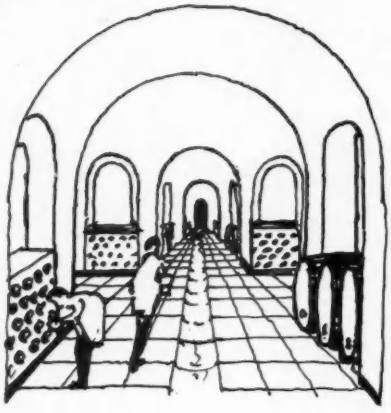
BY ARTHUR W. KENYON, CBE, FRIBA

57. Behind the Facades

WHEN YOU SEE a notepaper heading embellished with the words 'established 1666,' you wonder however firms manage to substantiate their claims and what form their ancient entitlements may take; but when the notepaper heading happens to be that of your wine merchant, you begin to think it is high time you paid them a visit to make your own investigation.

No sooner thought than acted upon, and before you could say 'Chateauneuf,' I was sitting in the vaults of their cellars tasting their delicate wines. This was in Regent-street, but of course it was not where they started life at all, for Regent-street was not thought of in their early days. They started life in the shadow of Wren's new St. Paul's, just rising from the ground.

Nevertheless here I was, sitting in a Regent-street building which was occupied long before Nash built the new street with its quadrants. The rear portion of the old building was not removed in the new building, and the culvert which took the water from Conduit-street still remains. This part seems to have been incorporated into the new buildings. The date of 1812 over a door in the basement shows where the new Regent-street commenced.



As I walked about this vaulted basement, saturated in the aroma of vintage wines, I wondered how much of this old London still remains and if anyone has kept a record of its history. Today when we rebuild, we destroy everything of the past and excavate for further space, but in Nash's day they accepted what was there and left it behind the new façade to carry on its daily life and function.

Since Nash's building, a further façade has been put up, this time in steel framing and Portland stone of a more permanent character, but still the brick vaults remain to remind us of what once was solid London. The street architecture is a mere screen of cosmopolitan shops: the real London lies beneath.

As you walk along the old paving which was once the side walk of a street, visions of a bygone age are conjured up. What characters known to us from history may not have walked this very paving? These vast basements used for the storage of wines in casks and bottles are right in the heart of one of the principal shopping streets of the world. The basement was still and silent, and as I walked fascinated about the place, I felt I must not disturb the dusty bottles resting snugly in their little alcoves. The work which was going on seemed as still and venerable as the wines themselves: only a few men and women moved quietly about in different parts of the cellars, and although I was told that at Christmas time the scene could be equalled only at the GPO, I found it hard to believe.

Book Review

Victorian Comfort

VICTORIAN COMFORT. A Social History of Design from 1830 to 1900. By John Gloag. (London: A. & C. Black Ltd.) Price 50s. net.

THIS VOLUME is the second of a trilogy of which we have already had 'Georgian Grace,' a social history of design from 1660 to 1830. The subject of this review is a factual survey of certain aspects of the chosen period, as far, that is, as a work of this kind can be restricted to factual record. The author does not pretend to the impartiality and detachment of a Guy de Maupassant. Indeed, he states in his preface that this study 'is not impartial; few books worth reading or writing are; . . . .' None the less, if, in the long run, we are left with no doubt as to where Mr. Gloag's sympathies do not extend, as distinct from his interests, a remarkably unbiased picture of the Victorian scene comes glowing into life.

Taste is a notoriously difficult thing to discuss. It may depend, at any given time, on what the majority regards as desirable, or it may rest on what a sufficiently powerful minority is able to impose. Broadly, those two premises distinguish the nineteenth from the eighteenth centuries. The author wisely takes the historical approach. He tells us not only what Victorian taste was like but discovers on what that taste was based. There we have the title of the book. Victorian taste was founded, firmly and voluptuously on Victorian ideas of comfort; the ideas of a large, uprising, and prosperous middle class, a class able and anxious to satisfy its desires and inclinations without reference to extraneous authority. What kind of a taste was erected on so materialistic and comfortable a foundation is entertainingly shown by the author's lucid prose, his many quotations from contemporary writers, and his no less entertaining and informative illustrations, over 300 in number and mostly from contemporary sources.

That all might not be for the best in the best of all possible worlds was a notion foreign to Victorian mentality. Its self assurance and complacency left no room for doubt. Critics there were, but these were lone voices crying in a wilderness flowing with milk and honey. The efforts of such reformers as William Morris and Charles Eastlake made but little immediate impact on the general society of the day. Their ideas were commercially vulgarised to the simulated sincerity and artificial simplicity of the 'quaint' or 'cottage' styles; the real influence of their endeavours was not apparent until, it must have seemed, their battle had been fought without avail.

The decline of educated appreciation of good design, the author states, began in the 1820's. Sinking progressively lower until the Great Exhibition of 1851, Victorian taste thereafter remained at its lowest level, generally acceptable to all classes, until the close of the nineteenth century. That statement alludes, within his terms of reference, to taste as exemplified by the design of artifacts. There were few exceptions; the author notes that the design of the clipper ship reached its highest point of elegant efficiency, but this admirable creation was beyond the ambit of general and domestic use. Taste, we gather, was down, well down, and remained down. This book makes that abundantly clear. It will disappoint those lovers of the period who have been misled by nostalgia and sentiment into condoning ugliness and bad design. But it must be recommended to them as a sanative antidote; the physic is so charmingly presented that the patients will indubitably ask for more.

JAMES BURFORD

Books Received

*** Books noted in these columns may be obtained on application to the Book Dept., 'The Builder,' 4 Catherine-street, Aldwych, WC2. Cash (to include 9d. postage on books to the value of 10s.; 1s. 6d. over 10s.) should accompany the order.*

A HISTORY OF ARCHITECTURE ON THE COMPARATIVE METHOD. 17th Ed. By Sir Banister Fletcher. Revised by Professor R. A. Cordingley. (London: University of London The Athlone Press.) Price 84s. (To be published on September 7.)

NATURAL STONE AS AN ELEMENT IN DESIGN. By Gerd Zimmerschied. (London: The Standard Catalogue Co., Ltd.) Price 80s. net.

FIELDHOUSE'S INCOME TAX SIMPLIFIED. Revised by H. E. D. Ayling. (Huddersfield: Arthur Fieldhouse Ltd.) Price 4s. 6d.

Painters Hall, EC4

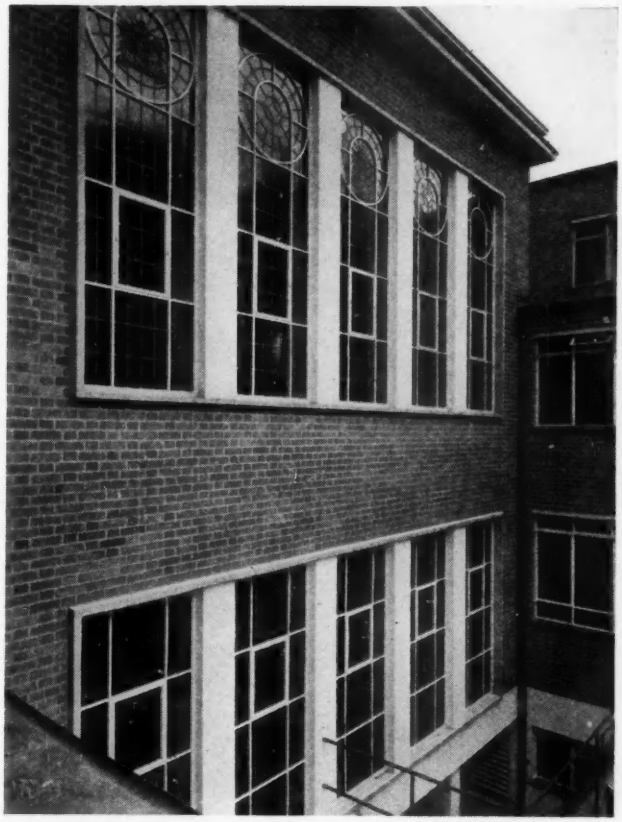
for the Painter Stainers Company

D. E. HARRINGTON, FRIBA, architect
CYRIL SWEETT & PTNRS., quantity surveyors
A. E. SYMES LTD., general contractors

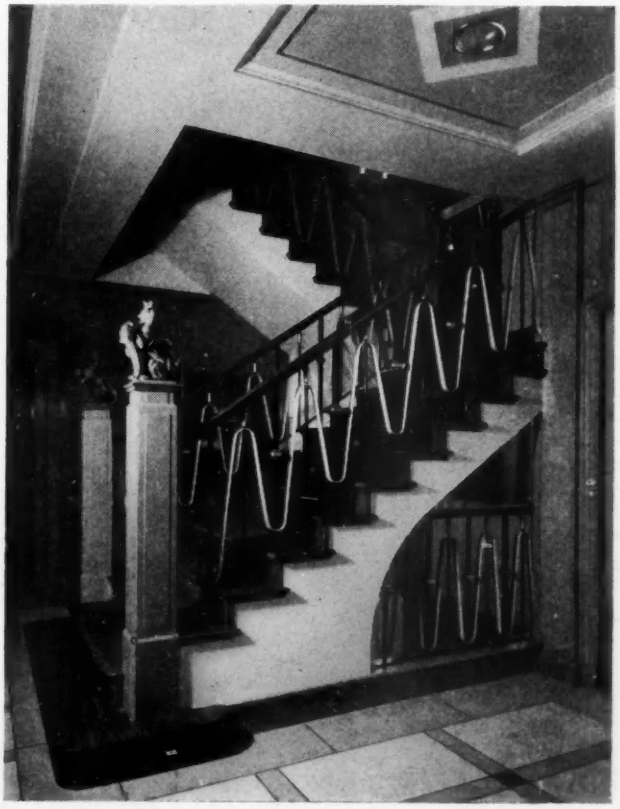
PAINTERS HALL, prior to the war, consisted of the Company's Livery Hall and Court Room with Beadle's flat and offices in No. 9 Little Trinity-lane, and separate offices in No. 8. In 1941 the greater part of No. 9 was destroyed, leaving intact only the 4-storey offices fronting Little Trinity-lane. This work is all that remains of the Hall erected after the Great Fire of 1666, which had destroyed the original Hall deeded to the Company in 1532.

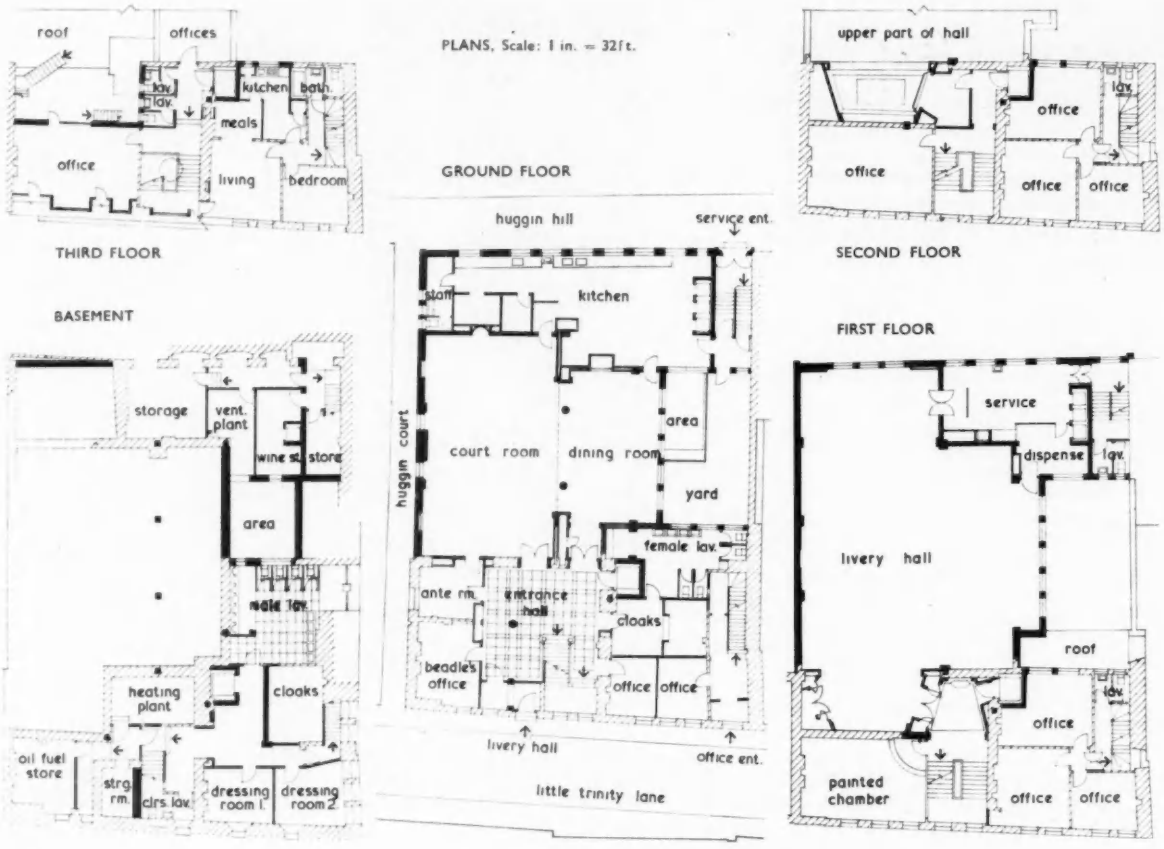
During the preparation of plans for the rebuilding scheme in 1958, the site area was extended to include land fronting on to Huggin-hill, so that a larger Livery Hall has been provided to accommodate 200 people.

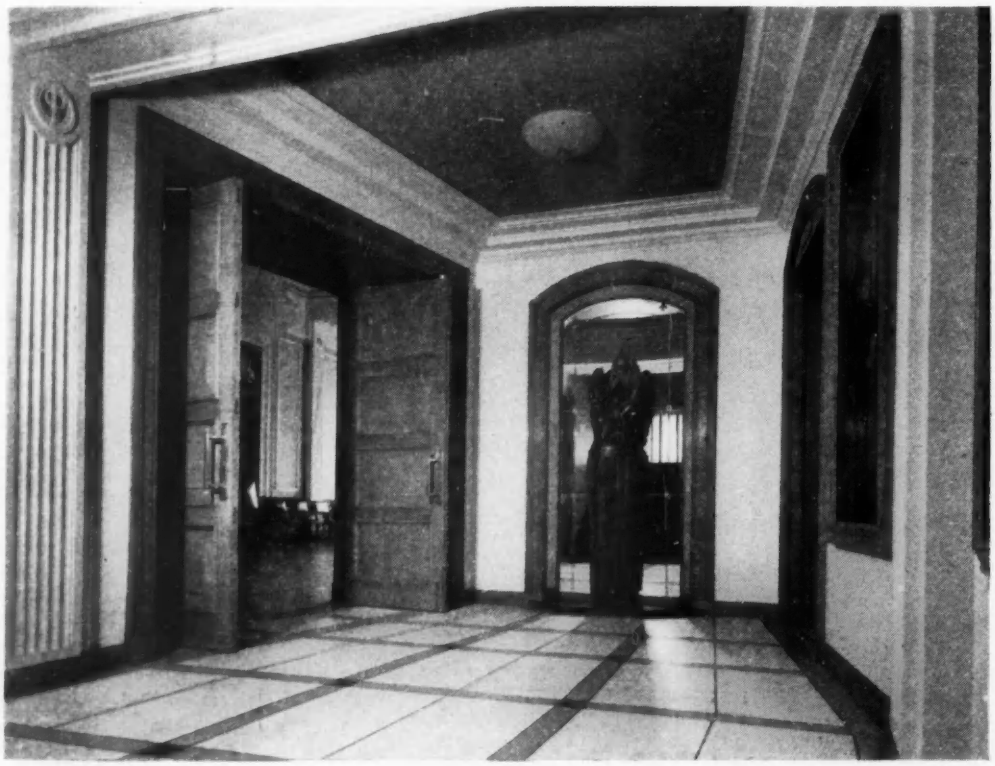
In view of the existing work which had to be incorporated in the rebuilding scheme, and a very strict budget, the construction scheme adopted consists of a steel frame and load bearing brick walls and wherever it has been



Top right, north side of the Livery Hall showing circular leaded lights with stained glass panels. Below, elevation to Huggin-hill, with commemorative tablet over the entrance. Right, the main staircase constructed in r. concrete with teak facings, mahogany handrails and newel posts, and wrot iron balustrades. The carved leopards surmounting the newels were salvaged from the old building

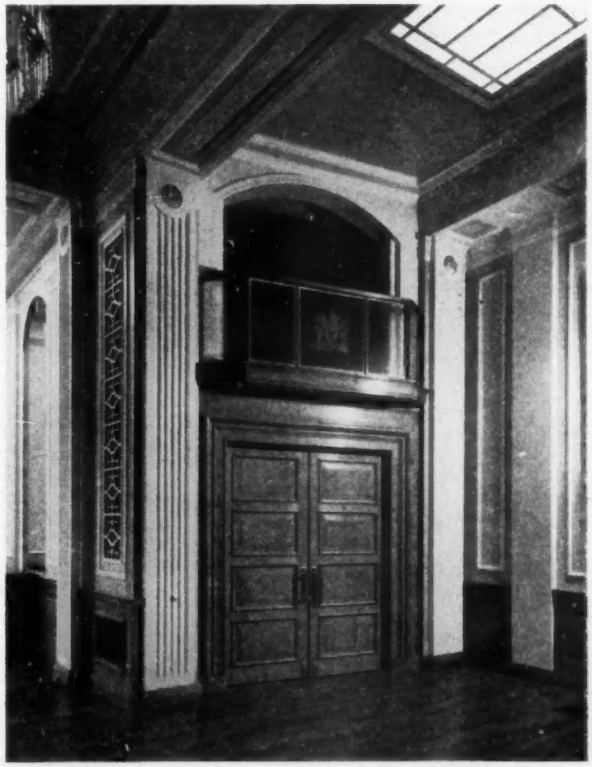




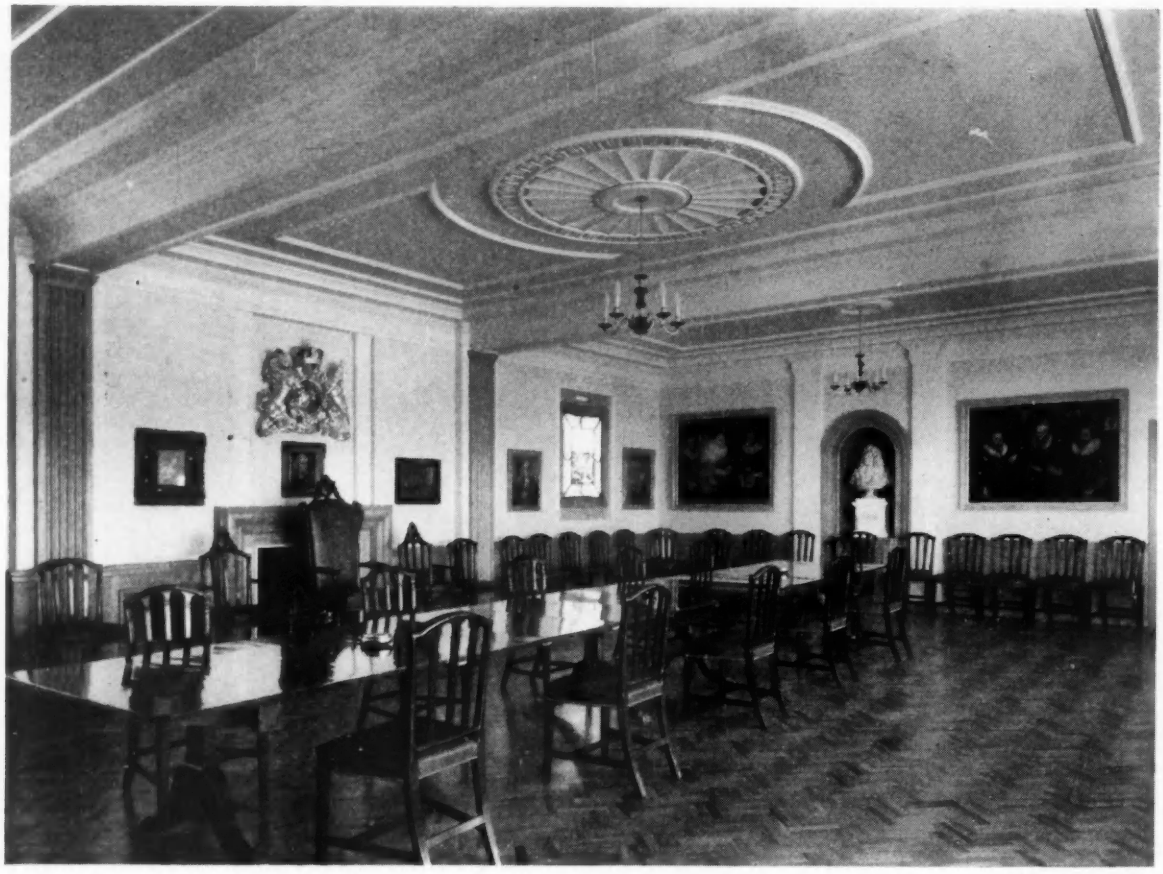


Left, vestibule and entrance to the livery hall. Facing page, top, the livery hall, and below, visitors' room over the entrance doors. Doors, panelling and other joinery is in English oak

practicable the greatest use has been made of the old walls. The main approach to the Hall is by the entrance door of No. 9 Little Trinity-lane. The original 17th century richly carved doorcase was too badly damaged for restoration and the new doorcase is a simplified replica in the same style and with the original carved and decorated cartouche of the Company's arms within the curved pediments. Inside, the entrance hall has been enlarged and panelled in English oak with concealed trough lighting to the plain ceiling, and with polished Terrazzo paved floor. On the West wall, facing the entrance, a Roman stone tablet has been let into the panelling, and this contains the commemorative inscription carved and gilded by William Sharpington. On the same wall are the entrances to the Court Room and Dining Room. These rooms are separated by a 25 ft. wide opening which can be closed by sliding doors for separate functions or thrown open to form one large room. There is separate access from both rooms to the main kitchen at the rear which runs the length of Huggin-hill.



The Court Room is panelled to dado height in English oak and has been designed on simplified classic lines emphasising the main structural elements. The finish above dado height is in plaster with fibrous plaster cornices, ceiling motifs, beams and lighting trough, with colour emphasis on the soffites. A niche has been constructed in this room for an existing marble bust of one of the Past Masters of the Company and dating from the 17th century. Also dating from the 17th century and much prized are two original stained glass panels and these have been accommodated in recesses in the brick walls back-lighted to simulate daylight. The stained glass has been restored by



the court room

Painters Hall, EC4

Wainwright and Waring. This room, and the Dining Room, will contain most of the Company's oil paintings, many of which are of historic interest.

The Livery Hall is 70 ft. x 46 ft. x 18 ft. high. Here again the design is a simple classic emphasis of the structural forms, with fluted pilasters, surmounted with carved roundels, depicting the Phœnix arising from the flames, and with moulded and recessed entablature around the walls. The plan form of the Hall is a central rectangle of three bays with coffered ceilings and with additional bays at the north, east and west kept lower in height and designed with concealed lighting domes. Natural lighting is provided by five tall leaded light windows on the north wall and three similar windows in the west wall. These windows have circular leaded lights with stained glass panels showing the Company's coat-of-arms and were carried out by Welsteads. The room has a dado panelled in English oak and the moulded and panelled entrance doors, overdoor, and other joinery is in the same timber. Facing the entrance doors, on the opposite wall, a recessed showcase has been provided to contain examples of the Company's plate and this also has been panelled in oak.

The new elevations of the Hall are faced in buff Ibstock facing bricks with Portland stone dressings to windows and to the plinth in Húggin-hill. A carved Portland stone tablet is fixed over the rear entrance door in Huggin-hill commemorating the gift of land to the Company made by Past Master Major Edmund Howard.

sub-contractors & suppliers:

Structural steel: Redpath Brown; *R. C. floor slabs and staircase:* Concrete (Southern) Ltd.; *facing bricks:* J. & W. Henderson Ltd.; *Portland stone:* Frank Mortimer Ltd.; *Westmorland roof slating:* J. J. Ettridge; *slate copings:* John Williams & Co. Ltd.; *tile cills:* Ruabon; *asphalt roofing:* Natural Rock Ashalte Ltd.; *metal casements and livery hall windows:* C. E. Welstead Ltd.; *hardwood flooring:* Hollis Bros.; *plumbing:* Eastern Plumbing and Heating Co.; *heating and ventilation:* Weatherfoil Heating Systems Ltd.; *electrical:* James Kilpatrick & Son; *cathode lighting:* Ionlite Ltd.; *decorative plasterwork etc.:* Clark & Fenn Ltd.; *plastering:* H. & F. Badcocks Ltd.; *joinery and panelling:* Symes (Joinery) Ltd.; *terrazzo paving and w.c. cubicles:* Jaconello Ltd.; *decorations:* A. E. Symes Ltd.; *sanitary and cloakroom fittings, ironmongery etc.:* Standard Range & Foundry Co. Ltd.; *balustrading, grilles etc.:* William Pickford Ltd.; *engraved glass balcony front:* William Pickford Ltd.; *lifts:* Hammond & Champness Ltd.; *light fittings:* Osler & Faraday Ltd.; *flush doors:* Leaderflush (Doors) Ltd.; *restoration of stained glass:* Wainwright & Waring Ltd.; *restoration of carved shields etc.:* Symes (Joinery) Ltd.; *painted chamber decoration:* Benge-Abbott; *wall tiling:* Decorative Tile Co. Ltd.; *R. C. roof lights:* J. A. King & Co. Ltd.; *marble fireplaces:* Maples and Boldings; *kitchen equipment:* Benham & Sons Ltd.; *internal telephones:* Phoenix Internal Telephone Co.; *paint suppliers:* Smith and Walton; Thomas Smith & Son.; *gas installation:* North Thames Gas; *cleaning:* Szerelmey Ltd.; *waterproofing:* Sealers (London) Ltd.; *linoleum:* Edward Stuart Ltd.; *wallpaper:* Sandersons; *timber preservation:* Richardson & Starling; *fire fighting equipment:* Pyrene; *sand and ballast:* Poultneys; *glazing:* Faulkner Green & Co. Ltd.; *sliding door gear:* P. C. Henderson Ltd.; *air duct grilles:* F. W. Potter & Soar Ltd.

RICKER LIBRARY ARCHITECTURE
UNIVERSITY OF ILLINOIS

News of the Week

Farm Buildings Advisory Panel

SINCE THE PUBLICATION of reviews of the design standards of prefabricated farm buildings by 'Design' magazine, landowners, manufacturers and officials have increasingly turned to the Council of Industrial Design for advice on the subject. As a result the council has invited a group of experts to join an advisory panel on farm buildings. They include Mr. E. D. Mills, CBE, FRIBA, Mr. M. Shepheard, FRIBA, Mr. J. Voelcker, ARIBA, Sir Gordon Russell, CBE, RDI, and Mr. J. Noel White, deputy director of CoID. Mr. P. Whitworth, industrial officer of CoID is to be the secretary and Mr. F. J. Stratton, CBE, chairman. The panel will begin its work with a survey of the range of standard components in concrete, steel, aluminium, timber and plastics which is already available.

'Civil Engineering Surveyors'

RECENT RESEARCH has shown that many land and mining surveyors are finding employment with civil engineering contractors and this seems to indicate a definite trend in professional employment.

This is the age of specialisation and the Faculty of Architects and Surveyors, being aware of this trend, is preparing an examination syllabus to meet the situation. Many civil engineering projects throughout the UK and overseas are already benefiting from the knowledge and experience of members of the Faculty, who can be considered as being in this group.

'Civil Engineering Surveyors' interested in professional membership should contact the Secretary, the Faculty of Architects and Surveyors, 68, Gloucester-place, London, W1.

Two MoHLG Appointments

MR. L. P. ELLICOTT, CBE, ARIBA, has been appointed as Chief Housing and Planning Inspector at the Ministry of Housing and Local Government in succession to the late S. L. G. Beaufoy. Mr. John R. James, OBE, succeeds Mr. Ellicott as Chief Technical Planner of the Ministry.

Railway Property Development

THE BRITISH TRANSPORT COMMISSION have for some time had under consideration the question of setting up a company to advise on and accelerate the development of major railway properties. A company, 'Railway Sites Limited,' is now being formed for this purpose and the registered office will be at 222 Marylebone-road, London, NW1.

The Board will consist of: Major-General G. N. Russell, CB, CBE, chairman; Mr. H. L. Roy Matthews, CBE, deputy chairman, whose appointment was noted in 'The Builder' of August 18; Sir Reginald Wilson; and Mr. W. S. Barnes, managing director.

Both General Russell and Sir Reginald Wilson are full-time members of the Commission, and General Russell has management and development of property as one of his principal responsibilities. Mr. Matthews, who is a member of Southern Area Board, has wide outside experience of property development. Mr. Barnes, a chartered surveyor, and at present the Commission's chief estate and rating surveyor, will relinquish that post to devote his full time, as managing diretor, to this difficult and important task.

Heating and Ventilating Competition

A COMPETITION to increase interest both at home and abroad in British heating and air conditioning equipment is to be sponsored by F. H. Biddle Ltd. Competitors will be required to design new heating and ventilating equipment or to improve on existing equipment manufactured by the sponsors. The total prize money will amount to £1,000 and the first prize will be for £500. Entry forms for the competition, which closes on November 6, can be obtained from F. H. Biddle Ltd., at 16 Upper Grosvenor-street, London, W1.

Professional Announcement

MR. D. R. HARDY, ARICS, and MR. R. J. HUGHES have commenced in partnership as quantity surveyors under the style of MESSRS. DAVID R. HARDY AND PARTNERS and have opened an office at 1 Wellington-road, Edgbaston, Birmingham 15, (tel.: Calthorpe 1447). Trade literature will be welcomed.

Coming Events

TUESDAY, SEPTEMBER 5

EXHIBITION.—International packaging exhibition. Olympia, London (until Sept. 15).

WEDNESDAY, SEPTEMBER 6

ASLIB.—27th conference of the International Federation for Documentation. Caxton Hall, Westminster, SW1 (until Sept. 16).

A Hundred Years Ago

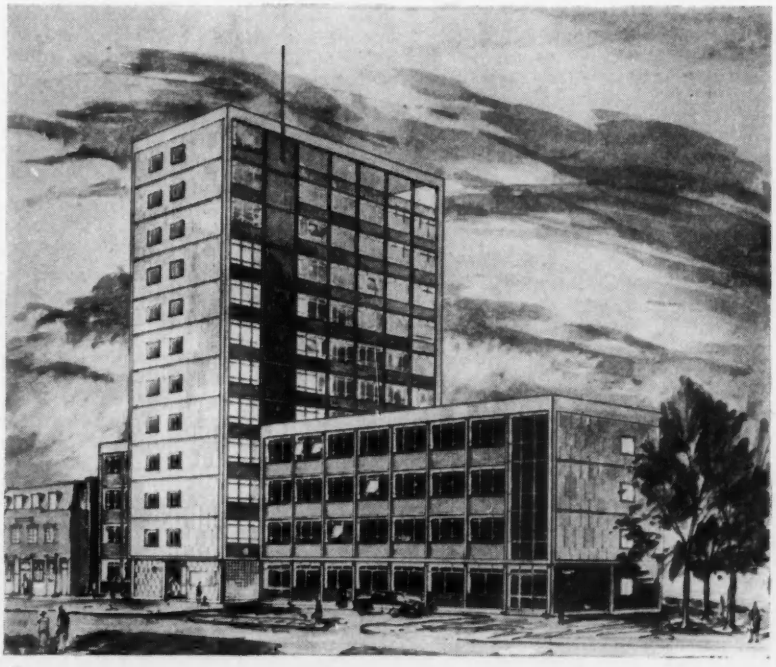
From The Builder of August 31, 1861

PUBLIC BUILDINGS ON THE THAMES EMBANKMENT.—I dare say many like myself, on looking at the plan of the proposed Thames embankment, will be prepared to offer suggestions. . . . On such a long line of roadway it would add much to the picturesqueness to have some public buildings laid out on a grand scale, and standing out by themselves, instead of being overwhelmed by many-storied houses in juxtaposition. . . . We have been some years in selecting a site for the Royal Academy. Now I venture to think that this proposed embankment offers many advantages. . . . I should prefer this site to one that has been often named, viz., Burlington Gardens.

The other building I wish to see placed on this new site is the New Law Courts. . . . I therefore propose, in lieu of the expensive site in the Strand, to place the Law Courts west of Temple Gardens. The sites I have no doubt, for the purposes I have named, could be obtained from the Metropolitan Board on easy terms; for if properly built, they would form handsome additions to the Quay Road.

AN OLD SUBSCRIBER.

NEW CROWN OFFICE BUILDING.—*The 'topping-out' of this £230,000 building, which will house four government departments at present scattered in the area, was performed by Mr. R. H. Thompson, MP, Parliamentary Secretary to the Ministry of Works, on August 23. The building, which is in Keyworth-street, SE1, was designed by Mr. E. H. Banks, Senior Architect of the Ministry of Works, and the contractors are A. Roberts & Co. Ltd. The floor area is approximately 60,000 sq. ft. and completion is planned for 1963*



Commonwealth Architectural Education

Conclusions of Recent Conference at the RIBA

An informal Conference on Education Overseas was held at the headquarters of the Royal Institute of British Architects, 66 Portland-place, W1, on August 16 and 17 with Mr. E. Maxwell Fry, CBE, FRIBA, Vice-President RIBA, in the chair. Following is the official report of the Conference issued by the RIBA :

LAST AUTUMN a full Commonwealth Conference was held at the RIBA ranging over problems of registration, professional practice, reciprocal recognition, educational standards and constitutional links between the RIBA and overseas societies. The next full conference in the summer of 1962 will be similarly wide.

Meanwhile, the RIBA have felt that, within that broader context, it would be useful to isolate and develop the one crucial subject of education with representatives from the developing countries whose circumstances and problems are broadly similar. Accordingly a conference was held on August 16-17 and attended by those listed at the end of this report. (This took place at the RIBA, but in the course of it the Architectural Association were good enough to have the forty to dinner at Bedford-square.)

The meeting was essentially informal, exploratory and without commitment, designed primarily to identify the major problems and ways in which the RIBA might help. Much ground was covered in the limited time and a broad measure of agreement was reached on the cardinal issues, which will now be pursued further both by the Board of Architectural Education and the Commonwealth Conference Committee.

The agreements reached are briefly summarised below:

In General

IT WAS AGREED THAT:

(a) In most of the countries concerned there is an acute lack of formal educational facilities for training architects and, even more markedly, those supporting workers in the office and in the field whom all agree to be necessary.

(b) In most schools training architects the wastage rate is unduly, and sometimes alarmingly, high. This makes for needless expense in time, staff and money that can ill be afforded. It argues the need for nearly every country to devise other courses, of good standing but more appropriate to the talents of many who now seek to be full architects. This in turn would help to meet the undoubted need for well-trained supporting workers in the office and the field if the crash programmes to meet what amount to prolonged social emergencies are to be fulfilled.

None of this, however, lessens the importance of each country training as many architects of high quality as it can, for in no other way is society likely to be led to demand the right standards of environment of competently conducted building.

(c) The first step towards a systematic appraisal of manpower needs under various auspices (at both professional and sub-professional level) in or on behalf of various countries is to be welcomed. It is hoped that more detailed statistics for these and other countries will be available by the summer of 1962, when the full Commonwealth Conference meets again.

(d) The RIBA could help strengthen links between countries concerned and perform a valuable service by acting as a central agency to whom any School could apply for the loan of exhibitions, or miniature photographs for enlargement, of work going on in other Schools of Architecture.

Standard of Entry

IT WAS AGREED THAT:

(a) As the new universities rapidly emerging will be wholly independent, and therefore settle their own entry standards and curricula (though often with help from the UK), it may soon be unrealistic for the RIBA to 'require' a given standard. Instead, it is important that the RIBA make contact with the new universities without delay and seek to encourage the right entry standards and appropriate degree courses. Evidence so far on likely entry standards is promising, and these are in any case less crucial to the RIBA than high quality in the finished product.

(b) In the short term, three schools have resourcefully adopted a satisfactory expedient to enable them to remain in line with the RIBA's new entry requirements, without unduly prejudicing their size of intake.

They recruit candidates at five 'O' levels and, by combining general with architectural education, train them to two 'A' level standard before sitting Intermediate. This might well be followed elsewhere.

Syllabus; and Recognition

IT WAS AGREED THAT:

(a) Flexibility is desirable when interpreting the RIBA syllabus in order to meet local conditions (which result from difference of race, climate and history), and this can often best be achieved by differences of emphasis, not by radical alterations in curricula. History, for instance, requires, in developing countries even more than in the UK, to be taught as a matter of organic growth whose phases can be rationally explained, rather than as an amalgam of inert and scarcely relevant facts to be memorised.

(b) Schools concerned are each invited to prepare and send to the Board of Architectural Education a draft of what seems to them the right syllabus to suit their own case, so that the Board may see how far they can be accommodated, so far as RIBA exams. are concerned.

(c) The conference recognises that membership of the RIBA may not be the ultimate object of all overseas students' studies. Nevertheless the RIBA Final and Special Final Examinations qualify also for registration under the UK Architects Registration Acts. Registration in the UK is not confined to British subjects, and any reciprocal arrangement between countries for the acceptance of architectural standards must rest on the registration position and not on membership of any particular institute. In the UK qualification for membership of the RIBA is the same as that for registration, and Schools overseas may well wish to accept the RIBA qualification standard which is internationally recognised, as the standard to be attained in developing their courses.

(d) The RIBA could profitably take the Special Overseas Scheme a stage further by now allowing RIBA Intermediate and Final papers to be set and marked locally without counter-checking in London, though subject to periodical review of standards.

Provision of Teaching Staff

IT WAS AGREED THAT:

(a) The financial provisions reported on behalf of the Department of Technical Co-operation for supporting secondment, augmenting salaries, providing extra teachers and even providing comprehensively for a new School, are encouraging. Governments in developing countries who are interested in drawing on these funds should be encouraged to make application without delay. It is important, however, to ensure that this machinery covers the case of the practising architect who is also a teacher from, for example, the UK who takes a short-term teaching appointment and needs, as an inducement, adequate recompense for temporary dislocation of his practice.

(b) Schools find difficulty in recruiting architects who know how to teach. The RIBA's current policy, therefore, of facilitating the exchange of information, ideas and teaching techniques of proven value as between teachers of architecture in the UK, is to be welcomed, and should be extended as far as possible.

(c) A very promising way for a School to recruit teachers from the UK or other highly industrialised countries, is to start or become associated with a Development Group. Relatively young but talented architects will be attracted to the idea of combining teaching in the School with stimulating development work at the drawing board on a practical social problem; and this kind of aid is likely to be more acceptable to new national governments than advice from visiting 'experts.'

(d) While in some countries the shortage of teachers is not acute, in all countries there is a shortage of good ones, and expedients are needed to attract them (including the right, and the opportunity, to practise). The inducement, however, of extra pay and supplementary benefits for expatriates, as at present administered, causes difficulties locally and it is reassuring to know that this problem is now under review.

Scholarships and Fellowships

IT WAS AGREED THAT:

(a) Information on precisely what scholarships are available from a wide variety of sources is not obtainable at any one central source. The Department of Technical Co-operation should be asked to collate the information and present a synoptic picture.

(b) Some five hundred fellowships, awarded very recently under the Scholarships and Fellowships Plan, primarily for post-graduate study, may be found not to include any for architecture. This must be remedied.

(c) Many scholarships tend to be awarded with too little regard to proven academic competence. Those responsible should be encouraged to devise more stringent selection methods.

Attendance at Conference

The following overseas representatives were present at the Conference:

East Africa.—M. G. Munday and D. L. D. Morgan, Royal College of East Africa, Nairobi, Kenya.

Ghana.—C. I. Hobbis, Kumasi College, Kumasi.

Hong Kong.—Mrs. P. M. Mayne, Department of Architecture, University of Hong Kong; A. M. J. Wright, Public Works Department, Hong Kong.

India.—S. Vedantham, Indian High Commission (Education Office).

Malaya.—Sir Alexander Oppenheim, Vice-Chancellor, University of Malaya, Kuala Lumpur, Malaya; Julius Posener, (lately) Technical College, Kuala Lumpur, Malaya.

Nigeria.—D. J. Vickery, Nigerian College of Arts, Science and Technology, Zaria.

East Pakistan.—M. Islam, Public Works Department, Dacca (on a travelling grant from Rockefeller Foundation to study architectural education).

West Pakistan.—W. Whitfield, a practising architect having considerable recent experience in West Pakistan.

Singapore.—K. C. Chung, Department of Architecture and Building, Singapore Polytechnic.

Sudan.—Professor R. Gardner-Medwin, (External Examiner), Department of Architecture, Khartoum University.

United Kingdom.—G. A. Atkinson, The Building Research Station, DSIR; H. M. Collins, The Council for Overseas Colleges of Arts, Science and Technology; R. Fonseca, The Tropical School of Architecture, The Architectural Association; F. P. Dunnill, Social Development & Research Division, Department of Technical Co-operation; E. Maxwell Fry, chairman, RIBA Commonwealth Conference Committee; A. M. Chitty, RIBA, Commonwealth Conference Committee; Denis Clarke Hall, vice-chairman, The Board of Architectural Education; Leo M. de Syllas, RIBA Commonwealth Conference Committee.

Estimators' Examination Results

THE INSTITUTE OF BUILDING ESTIMATORS has published the results of the intermediate and final examinations which were held in May. Six of the thirteen candidates who sat for the intermediate examination passed, and the remainder have been invited to take one or two of the subjects again. In the final examination V. W. Allen of Wiltshire, F. R. Emburey and B. G. Harman (London), S. F. Smith (Middlesex), and R. W. Taunton (Sussex) passed, whilst two of the candidates have been invited to sit for either one or two of the subjects again.

Training of Engineers

Suggestions for Improving the Flow of Recruits

FROM A LOCAL GOVERNMENT CORRESPONDENT

AN INQUIRY of all members about the establishment, shortage and methods of training engineers has been made by a committee of the Association of Municipal Corporations following a report on the shortage of this type of staff. The shortage, it was suggested, was caused to some extent by the limitation placed by the Institutions of Civil Engineers and Municipal and County Engineers on the number of pupils which a qualified engineer may have serving under him.

In a report on the position SIR HAROLD BANWELL, the association secretary, points out that in November, 1942, the Councils of the Institutions of Civil Engineers and of the Municipal and County Engineers set up a joint 'ad hoc' committee to investigate and report on the question of the practical training of municipal and county engineers. That committee recommended that every engineer to a local authority who is a corporate member of either or both of the institutions and is willing and able to provide persons with practical engineering training and is also in a position to supervise such training, should accept a limitation of the number of persons training under him on the following basis:

	Population 5,000-30,000	Population 30,000-200,000	Population over 200,000
(*a*) Pupil, apprentice or engineering learner ...	1	2	3
(*b*) Graduate assist.	1	2	3

Sir Harold states that there is also a temporary arrangement whereby an engineer who fulfilled the conditions set out above might take, in addition to his permanent allocation, engineering learners to the number of 25 per cent of the corporate members of either or both co-operating institutions on his staff (excluding persons under training).

Graduate Assistants

There is an additional provision to the recommendation that until December, 1965, no limit is to be imposed on the number of graduate assistants which an engineer might have under training.

Dealing with the inquiry, Sir Harold reports that the replies from 307 members indicate that the total establishment of engineering assistants is 3,546, and that there is a shortage of 570. The number permitted to be trained is 645 and there are 409 actually under training. The majority of members who replied expressed satisfaction with the present recruitment and methods of training engineers, but a number referred to the difficulties of recruiting graduates, and the competing attractions of other fields of employment. The quality of applicants is frequently low because the better students are proceeding into the sixth forms with a view to entrance to universities.

Various suggestions have been made for improving the flow of recruits, among these are: (a) providing adequate training facilities for the numbers already approved by the professional institutions; and (b) attracting a bigger percentage of the increasing number of university graduates. It is also suggested that further endeavours should be made to encourage trained men to remain in the local government service by offering more attractive conditions of service.

Shortage of Architects

The shortage of architects was also dealt with by the association and in a note on this Sir Harold states that replies from members indicate that the total establishment of architectural assistants is 2,699 and there is at present a shortage of 625. The number under training is 167. He writes: 'Here again the present recruitment and methods of training are considered by the majority of members to be satisfactory. A considerable number, however, refer to the inadequate flow of qualified architects to meet the volume of work caused by development. It is suggested that the training by part-time methods, i.e., evening classes, is too long and laborious and few pupils seem able to complete the course.

'The only satisfactory ways of increasing the availability of architects for the work in hand, should the high volume of this work be maintained, seem (a) to extend greatly the intake of schools of architecture, and (b) to introduce sandwich courses whereby training can be shared approximately equally between working in an office and day-time study. The adoption of these two methods would not show an immediate improvement, but would perhaps improve the situation in the future. A number of the replies suggest that higher salaries should be paid to retain architects in the local government service.

'It is understood,' Sir Harold continues, 'that the RIBA is at the present time considering the question of the training of architects, and have in mind a new type of assistant who may be termed 'architectural draughtsman' to fill the need for junior staff.'

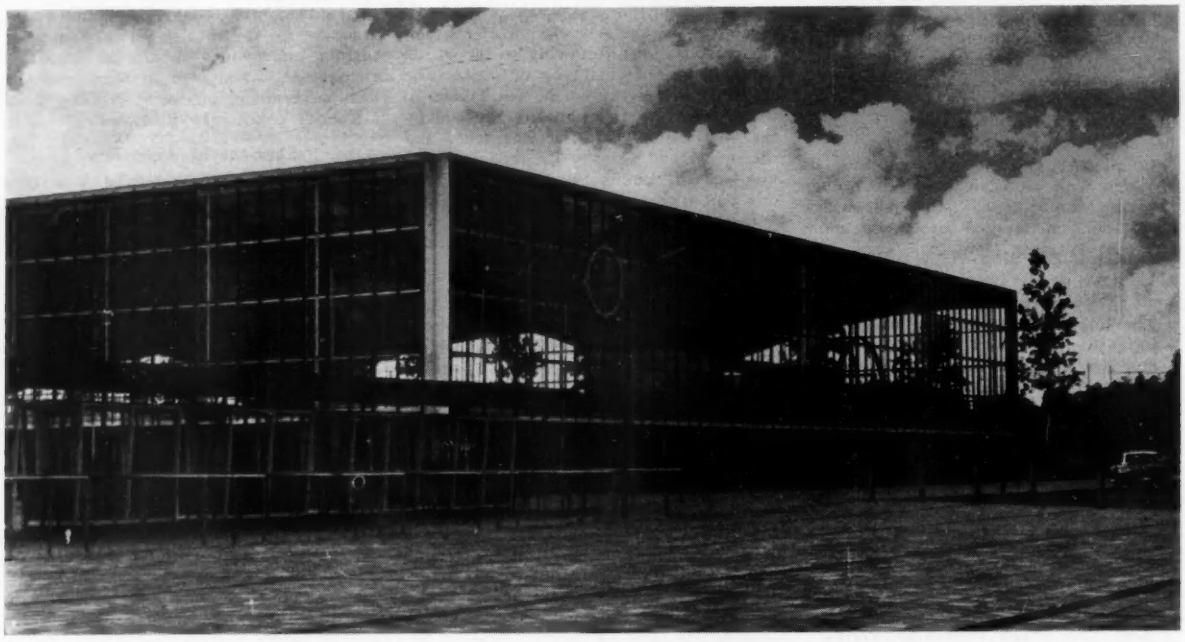
An AMC report reveals that the association have accepted an invitation from the Institution of Municipal Engineers to discuss the problems of recruitment and training. The association is also asking the RIBA to discuss with them the recruitment and training of architects.

St. John's Hospital, Coventry

THE MINISTRY OF WORKS has offered a grant as a substantial contribution towards an appeal fund which is to be launched to secure the restoration of one of the oldest buildings in Coventry, the twelfth-century St. John's Hospital. The appeal is being launched by the owners, trustees of the Old Grammar School, Coventry, and public access is to be arranged for one day a week from May to September.

'Expo Hall' at Hilversum

EDWARD D. MILLS AND PARTNERS, architects
FELIX J. SAMUELY AND PARTNERS, consulting engineers
Re-erected under the supervision of MR. JOUSTRA, *Hilversum city architect*



North elevation and entrance

THE 'EXPO HALL,' originally the British Industries Pavilion at the Brussels Fair in 1958, has been re-erected in the Municipal Sports Ground at Hilversum. The hall has been modified to accommodate such diverse functions as indoor sports meetings, international congresses and orchestral concerts, but a stipulation was that the general line of the building should not be altered. The site in the sports ground is adjacent to the Hilversum-Utrecht railway line, about two miles from the NS Stop, Soeadijker-avenue, which is a stopping place for all trains. Close to the station is a large bus terminal serving the centre of Hilversum and frequent routes to and from Amsterdam, Bassum, Baarn and Utrecht.

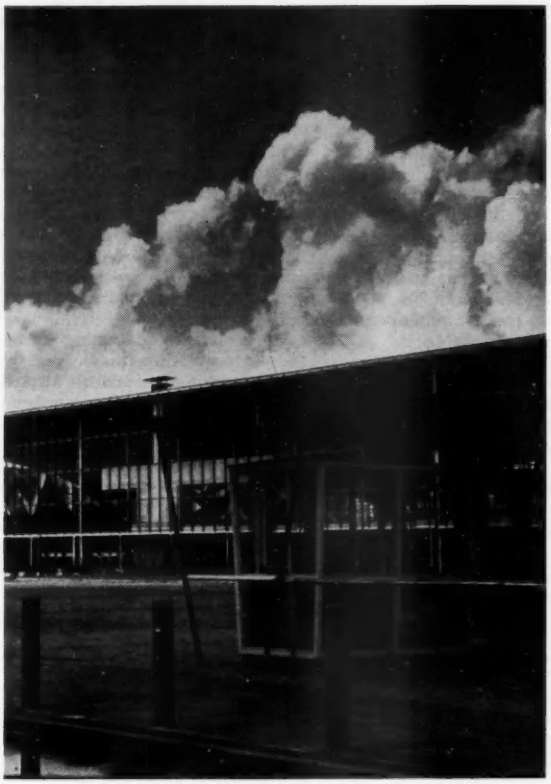
The overall dimensions of the ground floor plan of the hall are 90m. by 60m., providing a total working area of 5,400 sq. m. There is also a useful basement area of 4,500 sq. m. and a further 7,000 sq. m. on other levels above ground floor. The hall is divided by two rows of four columns placed at 30m. centres, 15m. from the side walls.

The main entrance is on the north side with exits on the east and west. There is a service entrance on the south side. Toilets, changing rooms with adjacent wash and shower areas, a cloakroom for 3,000 persons, offices, kitchen and canteen area are all reached from a separate corridor on the east and west sides. Two buffets are incorporated up a flight of stairs. A large storeroom has been built on the south side of the hall with changing rooms, wash areas and toilets. Next to this storeroom is a special entrance for the delivery and despatch of goods. On the north side, above the main entrance, is a special reception room and one small conference room or office. The lighting installation has been arranged so that the hall can be illuminated in several ways and, in addition, different sections can be lighted separately. A central control room for lighting, ventilation and sound is situated above the entrance on the north side.

The sound installation comprises one central loudspeaker unit containing sixty monitored speakers. The whole installation is fixed to the roof in the centre of the hall. Different groups of speakers can be used separately for high and low tones, while the sound can also be directed to different sections of the hall. A special loudspeaker installation system has been installed for the benefit of people in adjacent cloakrooms, etc. Switch points have been provided in the columns so that additional loudspeakers and microphones can be installed if needed. Also provided in the floor of the hall is a ring main for inducted sound transmission. By this means it is possible to supply, for example, an international congress with translations (maximum six languages). Use can also be made of this conduit for connecting appliances for the deaf.

Seating has been arranged in demountable platforms which can be assembled in different ways and which form a total capacity of 1,000 places. It is intended to make provision for a further 1,000 places in the near future. The hall is also to be provided with a demountable podium, 15m. by 10m. Heating is supplied by a warm air system.

The hall itself is suitable for tennis (5 courts), indoor handball (2 courts), basketball (7 courts), badminton (20 courts), volleyball (11 courts), table tennis, indoor football (2 fields), indoor hockey (2 fields), athletics and roller skating. Externally, on the east side, a hard landscaped area covering some 3,600 sq. m. has been provided. The siting of the 'Expo Hall' in the Municipal Sports Ground provides attractive possibilities for big events for which covered and open accommodation is required. In the immediate vicinity there is a café-restaurant with accommodation for 500, but it is intended to construct, as an annexe to the hall, another café-restaurant with adequate accommodation. A larger car parking area is to be laid out opposite the main entrance.



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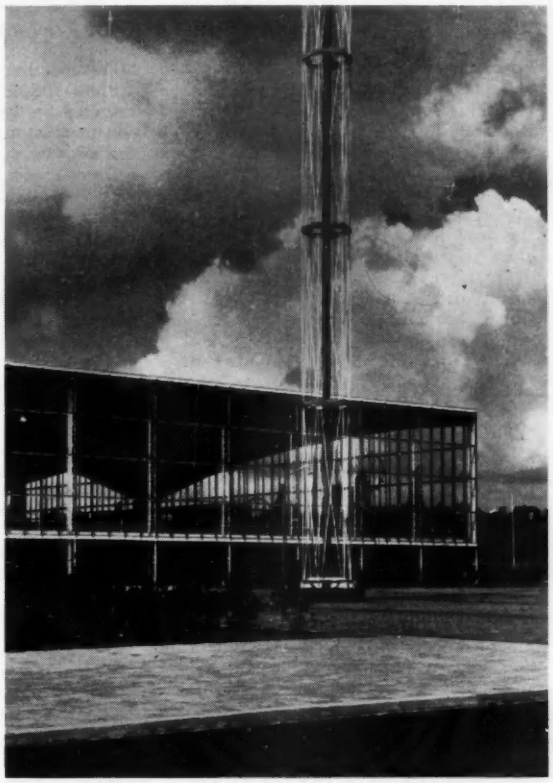

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1. Part of the main entrance and a covered ticket kiosk. 2. Side elevation with vertical feature. 3. South end with 'plyglass' mural. 4. Interior view showing part of the hall prepared for a large meeting (3,000 seats)

4

Traffic Engineering Research

Emphasis on Accident Prevention

ROAD CASUALTY FIGURES for 1960 (7,000 killed and over 340,000 injured) are the highest ever recorded and the Road Research Board, in its report for 1960, published on August 24 (HMSO, price 7s.), emphasises particular concern with lines of research that have a direct bearing on accident rates. The Board stresses the need for publicity and welcomes the close co-operation between the Ministry of Transport and the Laboratory on 'all specifications for important constructional schemes on trunk roads and motorways.'

The Director's report contains details of the research carried out by the Laboratory during 1960. The subjects include:

Future traffic.—The Laboratory has estimated that, on the current rate of growth of 7 per cent, there will be 17m. licensed vehicles in Great Britain in 1970 and 36m. vehicles in 2010.

The skidding resistance of white-road markings.—Many types of road-marking have been tested for resistance to skidding in wet weather. The best results were generally obtained with the more conventional road-marking materials—thermoplastic (superimposed and inset) and concrete.

Street-lighting columns.—In 1956 about 800 occupants or drivers of motor vehicles were injured or killed in collisions with lighting columns in the Metropolitan Police District. In 1958 about 90 fatalities of this type occurred in England and Wales. Laboratory experiments have shown that a thin sheet-metal column yields more readily than either a tubular-steel or a concrete column, thus reducing the severity of injuries. The use of sheet-steel columns may, however, increase the risk of injury to pedestrians, but on high-speed roads where there are few pedestrians thin-section lightweight columns are to be preferred.

Materials and Construction

Pavement design.—The problem of how to decide by scientific methods the most economic thickness of base material and of bituminous surfacing for any particular set of traffic and soil subgrade conditions is still a subject for research. Many countries are devoting a great deal of research to this matter and there is a demand for international co-operation in this work. The increased pace of road construction has called for an urgent solution but unfortunately there is no quick alternative to the full-scale road experiment. The results of the 1957 experiment on the Great North Road at Alconbury Hill in Huntingdonshire are now showing the technical advantages of rolled asphalt.

Settlement and stability of embankments.—Large settlements which sometimes occur at bridge abutments are being investigated. In practice the construction of an embankment is often stopped short of the bridge abutments. Wedges are left on either side of the bridge and these have to be compacted later. A high state of compaction may then be difficult to achieve. Settlement gauges are being installed in certain major roads during construction to provide data required in the solution of this problem.

Compaction of concrete.—Research on vibrating machines for the compaction of concrete has shown that for vibrators designed to operate with a constant dynamic force, a large amplitude and low frequency are preferable. The supporting springs and shape of shoe should be selected in relation to the minimum workability of the concrete likely to be used; generally concrete to be compacted by surface vibration should be designed to have an average compacting factor of not less than 0.82.

Prestressed concrete.—The Laboratory is collaborating with the Belgian Centre de Recherches Routieres in research in prestressed concrete roads, and as part of this scheme a prestressed road—more than two miles long—was constructed during the year at Zwartburg in Belgium.

Spreading coated chippings by machine.—Rolled asphalt wearing-courses in which the stone content is 45 per cent or less normally receive a final application of ¾-in. or ½-in. coated chippings. To spread these uniformly by hand needs skilled labour and slows up the work even where there is no shortage of skilled spreaders. The Laboratory has designed a machine which will automatically spread the chippings quickly and evenly. Such a machine is essential for surfacings on motorways and long lengths of other new roads.

Electrical heating of roads.—Electrical heating of road surfacings is a reliable method of preventing the formation of ice. (A double control, which switches on the power only when there are both low temperatures and moisture deposition, ensures economy in power consumption and also provides heat as soon as it is required.) Now the system is being used more extensively: convenience and reliability at places where the dangers from ice formation are considerable is sufficient to justify the cost. It is now being applied to bridges and fly-overs.

The Institute of Builders

Professional Membership Examinations, June 1961

THE FIRST EXAMINATIONS under the revised scheme of examinations of the Institute of Builders were held on June 26-28 last at the following centres: Belfast, Birmingham, Bristol, Cambridge, Dublin, Edinburgh, Liverpool, London (Brixton, East Ham, Willesden), Manchester, Plymouth, Reading, Sheffield, Southampton, Sunderland and Swansea. Also overseas at Hong Kong, Gibraltar and Kenya.

A few candidates sat the Intermediate and Final Part I examinations, but the majority of college students finishing their preparatory courses in 1961 preferred to await the September Licentiate Diploma examination under the old regulations (for which the enrolment exceeded 1,300). The largest proportion of the 180 June candidates were Licentiate members of the Institute (LIOB) seeking to qualify for Associateship through the Final Part II examination.

Pass List

INTERMEDIATE EXAMINATION (2 candidates)

The two candidates who sat were unsuccessful in the examination as a whole but both passed in three subjects and will be required to offer themselves for re-examination in their two outstanding subjects.

FINAL PART I EXAMINATION (7 candidates)

C. F. J. Foster, BA, R. J. Russell.

Two further candidates were awarded passes in Group I of the examination.

FINAL PART II EXAMINATION (171 candidates)

P. G. Adams, J. Allen, S. J. Austin, A. G. Barker, R. Barker, K. B. Beardsall, A. H. Bond, J. F. Bedford, D. N. Blythe, K. M. Brear, K. W. Brooks, W. C. Buffery, B. R. Chandler, D. F. Cooper, A. S. T. Cowell, G. Day, P. Dennis, I. L. Dixon, B. P. G. Fagan, G. Font, J. B. Goulding, BSc, G. D. Green, F. A. Hammond, MSc, K. Hargreaves, J. H. Hassard-Short, J. R. L. Heath, T. S. R. Heeps, K. W. Henshall, BSc, D. G. Hester, R. J. Hogg, W. P. Holloway, R. K. Howman, E. O. Hubball, E. R. Hubbard, G. R. Hudson, W. S. Hunter, K. G. Ilett, P. C. D. Jessup, G. A. Jordon, L. F. Keeble, J. A. Lyons, D. Mabbs, A. J. Maxwell, B. McPherson, D. A. Morcom, S. F. Mountford, W. G. Nash, C. B. Nichols, R. Oxley, M. J. Padgham, A. R. Parsons, D. J. Plumb, J. Poskitt, K. Price, C. S. Reed, H. Richmond, R. U. Rickwood, I. G. Ross, J. Skelding, D. F. Strongitharm, N. J. Symes, D. R. Thornton, T. Watford, R. J. Weller, M. Whittaker, F. E. Wingfield.

(Total, 66. Except where otherwise described, examinees already hold the qualifications of LIOB).

Dates of the 1962 Examinations

NEW REGULATIONS: Intermediate examination and Final Part I examination: June 25-27, 1962. Final Part II examination: June 25-26, 1962. Last date for the receipt of applications, March 31, 1962.

OLD REGULATIONS: Modified Licentiate Diploma examination: September 3-4, 1962. Last date for the receipt of applications: April 30, 1962.

Copies of the examination papers are available on sale from 48 Bedford-square, WC1, as follows: Intermediate, 4s. per set; Final Part I, 6s.; Final Part II (with drawings), 10s. Examiners' reports should be available within a week.

Building on Hurst Park Racecourse

Minister to Permit Development on 54 Acres

MR. HENRY BROOKE, Minister of Housing and Local Government, has granted permission for houses and shops to be built on about 54 acres of Hurst Park racecourse and car park. He considers that the future of the remainder of the 121-acre site should be the subject of further consideration by the owners and the appropriate authorities.

On December 17, 1959, the Minister directed that an application by Hurst Park Club Syndicate Ltd., for planning permission for buildings, open spaces, a sports ground and a school playing field on land at the racecourse be referred to him for decision. An inquiry opened on September 26, 1960.

In his report, the Inspector who held the inquiry concluded that there were three alternatives for the future use of the site:

(i) retention of its present use;

(ii) full development for residential and allied purposes with 10 acres devoted to public open space by way of gift; and

(iii) partial development with the possible provision of a larger area of public open space by way of council acquisition.

He considered that the first alternative could be dismissed, principally because the racecourse was superfluous to need. On the question of the remaining alternative uses, he considered that the question of flooding was the most important single factor and that this dictated the apportionment between building land and open space. He considered also that the provision of only 10 acres of public open space, as was proposed, would be far from adequate even if flood plain land had not been involved.

Precautions Against Floods

The Inspector accepted that the raising of the land subject to flooding to a height of six inches above the 1947 peak flood level would be an adequate safeguard against future flooding, but because of the danger of the cumulative effect of losses of flood plain he thought no precedent should be established for further flood land development unless it could be clearly shown that its function was inseparable from the river or that it had overriding advantages. The raising of the flood plain land as proposed for the development of the whole site would have the secondary effect of securing against further inundation some 70 houses south of Hurst-road opposite the western end of the site and might lessen the possibility of flooding of a smaller number of houses at the extreme eastern end of Hurst Road.

The advantage of protecting the 70 houses however, could equally well be realised by raising only the narrow neck of flood land lying between the western part of the site and the higher land near the middle. The closing of this gap would safeguard existing housing, enable houses to be built on the racecourse car park which was otherwise fully ripe for development, and would prevent the isolation of the higher land in the middle of the racecourse by flood water, and the Inspector thought these advantages warranted the loss of the small area of flood plain involved.

Furthermore, the restriction of building to the higher ground and to the western portion of the flood plain would afford a reasonable apportionment between development and open space over the site as a whole, which the submitted scheme did not. It would provide sufficient housing to make the development worthwhile, while at the same time ensuring enough open space to maintain much of the open character of the site and to provide the general public with better facilities for enjoying the benefit of the riverside setting.

The Inspector considered that a well-designed and fully landscaped and tree planted estate on the restricted scale suggested, adequately set back from the river, would have no adverse effect on the visual amenities. At present the land was open, flat, barren and uninteresting, with the massive grandstands and concrete boundary wall. Pressure on public transport services, which applied everywhere in the Greater London area, was not an effective argument against the development, but it would be reasonable to ask the developers to reserve a site for a new secondary school, particularly as the use of flood plain land for its playing fields might release other land not subject to this disadvantage for some form of development. He recommended that the application be approved subject to the following conditions:

(i) the development be confined to that portion of the application site which lies above the peak flood level of 1947 and which forms approximately the western half of the racecourse, including that portion of flood land which lies between the higher central land and the western extremity of the racecourse and the whole of the racecourse car park;

(ii) the maximum net population density of such development should not exceed 40 persons to the acre; and

(iii) the layout of the land, the access thereto, its landscaping and tree planting, and the design and external appearance of all buildings should be as might be agreed with the local planning authority or, in default of agreement, as should be determined by the Minister.

The Minister's Decision

The letter giving the Minister's decision says: 'The Minister agrees in principle with his Inspector's findings. He has had regard to the use to which this land is now being put and to the need to make more land available for housing where this can be done without harm to amenity or agriculture or to the planning of the area. He is satisfied that the building of houses on the western part of the racecourse and on the racecourse car-park need not be detrimental to the character of the area or to the appearance of the river bank and that this development would be secured from flooding. The Minister does not accept, however, that 40 persons per acre is necessarily a maximum here. In his view this should be the minimum; with a skilful layout, the density could well be higher and in the interest of using valuable land to the full he would like this to be considered by the owners and authorities. The Minister also considers that the question of allocating land for a secondary school, like the open uses to which the eastern part of the site should be put, should in the first instance be the subject of further consideration by the owners and the appropriate authorities.

'The Minister has decided, therefore, to give permission for the erection of buildings on the western part of the racecourse and on the car park only and he hereby approves the application to the extent that he grants permission for the construction of dwellings and shops and ancillary works . . . subject to the following conditions:

(i) the number, siting and design and external appearance of the dwellings and of the shops shall be as may be agreed with the local planning authority or, failing agreement, as shall be determined by the Minister;

(ii) before building work begins, a scheme for raising the lands liable to flooding, the layout of the roads, means of access of the buildings, landscaping of the site and planting of trees shall be agreed with the local planning authority or, failing agreement, shall be determined by the Minister.'

Mr. Wates's Comments

Commenting on the decision, MR. NORMAN WATES, Chairman of Wates Ltd., building and civil engineering contractors, who were also concerned in the application to develop the course, stated:

'We welcome the Minister's decision to permit development at a minimum density of 40 persons to the acre on 54 acres at Hurst Park as it will help to alleviate the severe housing shortage.

'It is a compromise plan and we naturally regret that our original scheme, which would house more than 3,700 people, has been rejected [the present scheme would provide housing for about 2,000].

'We do, however, appreciate the very real difficulties which faced the Minister in reaching his decision because of the diverse interests involved. We nevertheless welcome the challenge which the modified proposals present.

'As soon as the Hurst Park directors decide to proceed with the scheme we will start immediate talks with our consultants and other interested parties and hope to be able to publish detailed proposals about the revised scheme later this year. If all goes well we hope to start the first phase of the development in 1963.

'I reiterate the pledge I gave at the public inquiry. Every effort will be made to maintain and improve the amenities of the site which will be developed with many landscape features, and will probably include a sculpture to commemorate the course.'

Archæological Excavations

Ministry of Works Rescue Operations

FORTY-FOUR sites scattered throughout the country which were threatened by destruction from industrial development, house building and agriculture were excavated under Ministry of Works emergency rescue operations during the twelve months ended March 31. These comprised 14 prehistoric, 16 Roman and 14 medieval sites.

In many other cases, the threat was averted as a result of negotiations between the Ministry and the private or public owners concerned.

The Ministry also gave financial assistance to over 20 excavation committees and museums engaged on urgent rescue operations. These were at Bourton, Canterbury, Chester, Chichester, Cirencester, Ebbsfleet, Gloucester, Ipswich, Leicester, Letchworth, London, Newark, Oxford, St. Albans, St. Neots, Welland Valley and Winchester.

The grants assisted in the recording of important Roman and medieval levels in the City of London and the town defences and a gateway at Corinium (Cirencester) and of Roman streets and houses at Verulamium, Leicester and Winchester.

Prehistoric Sites

The most important prehistoric sites included a further series of Neolithic and Bronze Age burial mounds and earthworks in Wiltshire, all severely damaged by ploughing. Many of the primary burials were recovered intact and were associated with rich grave goods dating to the period 2,000-1,500 BC. At Amesbury, for instance, a low bell barrow was found to contain a contracted inhumation accompanied by a beaker, flint knife, antler and copper awls beneath a wooden plank. A large wooden tool had been placed by the head of the man. At Wilsford another barrow contained eleven burials, mainly children, accompanied by beakers, a bone ring and ear pendant.

In Dorsetshire, a Neolithic causewayed camp was sectioned at Hambledon Hill, the finds including domestic pottery ranging from Neolithic Windmill Hill to Early Bronze Age beaker wares. At Maiden Newton, an early Iron Age settlement was partially explored dating to the 5th-4th centuries BC. The dwellings were large, circular, timber-built huts, varying in diameter from 25 to 35 ft., the post holes and timber slots throwing new light upon constructional details of the doors and porches.

Three round houses, one associated with very early Iron Age pottery dating to circa 500 BC, were excavated at Cow Down in Wiltshire.

In the North Riding of Yorkshire, the Seamer Moor Long Barrow was excavated. It was discovered that the burial mound covered a stone and timber-built mortuary house, 25 ft. long and 17 ft. wide, in which the Stone Age dead had been laid during ritual ceremonies. It was flanked by drystone walls which formed a horned entrance at the east end. Later, the entrance forecourt was used for cremations before the site was finally enclosed by the stone and earth mound. Another post structure and mortuary house were also discovered beneath an adjacent round barrow on what may be claimed as one of the most interesting archæological sites in Northern England.

Another important discovery was the hitherto unknown headquarters of the Iron Age tribe of the Coritani at Sleaford (Lincs.), where occupation debris included coin moulds used in the minting of currency in the 1st century BC and 1st century AD.

Roman Sites

In addition to the major town excavations mentioned, Roman sites included the recording of houses, public buildings and defences at Aldborough (Yorks.), Ancaster (Lincs.), Brough (Yorks.), as well as villas and farm buildings at Sleaford (Lincs.), Thistleton (Rutland) and Winterton (Lincs.). At Hartshill (Warks.) an industrial site was excavated, eighteen pottery kilns being located by magnetometer survey. The products were mortaria and other coarse pottery manufactured from the second to the early 4th century AD.

Post-Roman and Medieval Sites

Two Saxon cemeteries, one at Alton (Hants.) spanning a considerable part of the pagan period; the other at Finglesham (Kent) where 45 graves were examined dating principally to the 7th century were included in the post-Roman and medieval sites.

The remains of a Saxon church site was located at Burgh Castle (Suffolk) and late Saxon levels were recorded at Cheddar (Somerset). Excavations at Maxey (Northants.) in the Welland Valley revealed parts of seven rectangular wooden buildings which may date to the Saxon period. These will provide interesting comparisons with timber buildings on the Continent.

A medieval manor, consisting of a 12th century rectangular building and 13th-14th century Hall with associated rooms, was examined at Weaverthorpe (Yorks.) and sample areas were tested in the medieval villages at Detton (Shrops.) and Martinsthorpe (Rutland). From the sampling of such village sites an interesting picture is emerging of rural housing and regional economy in medieval times.

Conclusion

The excavations section of the Ministry of Works states that the heavy demand for rescue operations continues. It has shown a tendency to increase particularly in agricultural districts where ploughing is seriously reducing, and encroaching upon, many prehistoric monuments. Recent surveys, such as 'A Matter of Time,' undertaken by the Royal Commission on Historical Monuments, have illustrated the threat to numerous sites in gravel working areas.

Discoveries at Godmanchester

EVIDENCE has been found in recent excavations undertaken by the Ministry of Works that the south gate of Roman Godmanchester, near Huntington, was an elaborate structure with a single great arch straddling Ermine-street, which is part of today's A14 highway.

Digging several feet deep on the site of a demolished cottage on the west side of Piper's-lane exposed the 9 ft. thick footings of the wall to the west of the gateway. These footings abutted on to a 20-ft. sq. tower which projected about 11 ft. in front of the wall face. The wall and tower were obviously built at the same time.

Immediately in front of and adjoining the inner face of the gateway were considerable remains of the original Ermine-street. It was undoubtedly a well cambered roadway of layers of rammed gravel and this gravel rested on dark earth which capped the natural boulder clay.

Ermine-street was a section of the Roman 'Great North Road', running from London to Braughing in Essex—also a walled town—and then to Godmanchester on the south bank of the river Ouse. Cautious exploration of the modern roadway also exposed the gate-side of the eastern tower, which was about the same size as that to the west.

The roadway through the gate was 30 ft. wide, and it was thought at first that this must have been spanned by a double archway. However, the area where a central pier would have stood still showed traces of the roadway with its surface following the camber line from side to side.

Similarly, on the west side a buttressed 4-ft. wide pier projected inwards from the inner wall-face to match a gatehouse foundation on the east side. It is clear from this that the purpose of this arrangement was to carry a covered archway with a single span of 30 ft.

A gateway of this important nature must have been the main entrance to a not altogether unimportant town, and the picture that emerged from previous excavations—of Godmanchester as a small posting station—will have to be revised.

The Town Wall

The first clear evidence of a town wall at Godmanchester was found as recently as 1956. Further excavations began in 1959, when the foundations of the south wall were exposed and its line established for some 90 ft. on the side of Piper's-lane. Close to Piper's-lane, immediately opposite the present London-road, a small part of the east side of the gate structure was exposed, but could not at that time be followed up.

The first hypothetical reconstruction of the walled area in 1956 was one of 19½ acres. But the excavation work just completed has shown, by a truer exposition of the wall, that this was an understate-

ment. Further exposure of the south wall to the east has also shown that it extended under Ermine-street.

To the west of the gateway, an earlier dyke was filled to carry the wall foundations across its line. Here in the basal silt of the dyke a large Roman jar was found. It was crushed but complete. In it lay the skull of a horse. Other pottery found below these footings show the wall to have been built not earlier than the second century and probably soon after AD 175.

The sewer trenches also enabled the main street, on the line of Ermine-street, to be followed for nearly 200 ft. into the town. Structurally, they were identical with the roadway outside the gate, but their overall width could not be measured.

Because of the shortage of building stone in this area, the whole of the gate structure above the Roman ground level had been robbed at various times, and this robbery apparently began shortly before AD 900. However, the heavy pitched-stone footings, capped by cobbles, which carried wall and gate structure, were still in situ.

The excavations were carried out under the supervision of Mr. and Mrs. Charles A. Green, of Caister-on-Sea, Norfolk.

'Inquiry into Planning'

T & CPA's National Conference

FASTER population growth, bursting cities, nearly a million more vehicles every year, and intensifying developments demands of all kinds are producing problems and challenges more urgent and more powerful than modern planning has till now had to face. And while some regions prosper, others become weaker, making more apparent the need to put land planning policies in harness with national economic and social aims. But is the machinery of planning, both in central and local government, organised and equipped for the task of formulating comprehensive policies and carrying them through? Is a drastic overhaul of machinery required no less urgently than a revision of policies?

The National Conference of the Town and Country Planning Association, to be held at Church House, Westminster, on October 25 and 26, will consider the major trends now influencing people's choice of home and work; the functioning and the appropriateness of the planning machinery at central and local government levels; and the policies that the problems demand.

The conference will be opened by Mr. Henry Brooke, MP, Minister of Housing and Local Government. Following are the principal speakers and their subjects:

The Land, the People and the Plans.—Speaker: Michael Wise, Professor of Geography, London School of Economics. Discussion opener: J. R. James, OBE, Chief Planner, Ministry of Housing and Local Government.

Planning and the Local Government System.—Speaker: Sir Edwin Herbert, KBE, LLD, chairman of the Royal Commission on Local Government in Greater London. Discussion opener: Desmond Donnelly, MP.

Planning and Central Government.—Speaker: Sir John Wrigley, KBE, formerly Deputy Secretary, Ministry of Housing and Local Government. Discussion opener: William Deedes, MP.

The Quest for Policies.—Speaker: Peter Self, MA, chairman of the Executive, Town and Country Planning Association. Discussion opener: P. A. Macrory, chairman, Location of Industry Committee, Federation of British Industries.

Brixton School

Lectures and Courses

THE BRIXTON SCHOOL OF BUILDING over the past few years has arranged at the Building Centre a number of lectures on the legal aspects of building work, given by Donald Keating, BA, barrister-at-law.

'The Quantity Surveyor—His Legal Position' is the next series of lectures to be given by Mr. Keating at the Building Centre commencing on Tuesday, October 31 at 6 p.m. and continuing each Tuesday evening for five weeks.

The syllabus includes: His employment. Authority of architect to engage. Remuneration—amount; by whom payable. His relationship with contractor—liability, if any, in contract; negligence; fraud. Duties to employer, including his position under the RIBA form. Breach of duty and its consequences. Litigation. The quantity surveyor as expert witness. The quantity surveyor as arbitrator.

Application for admission to this course should be addressed to the Secretary, Brixton School of Building, Ferndale Road, SW4, not later than October 20 next. Fee for the course, £1.

Management Studies for IOB Examination

A COURSE of Management Studies for the building industry will again be provided at Brixton School of Building as an evening course during the session 1961-62. Entrants to the course will be required to have passed the Institute of Builders new Part I Final AIOB Examination or hold LIOB or a comparable qualification. The course, which will provide preparation for Part II of the AIOB Examination, will meet at 6.30 p.m. on three evenings a week, Mondays, Tuesdays and Thursdays, commencing on Monday, October 2, when the opening lecture will be given by Mr. D. E. Woodbine Parish. Over 20 different lecturers, each specially qualified or experienced to deal with a particular aspect of the subject, will contribute to the course which will include tutorial periods as well as evenings devoted to lecture and discussion.

The fee for the course will be £2 10s. and the number of places available is limited to 24. Applications for places should be made as soon as possible to the Secretary, Brixton School of Building, Ferndale Road, SW4.

Technical Training 1961-62

London and Home Counties

THE BULLETIN for the autumn term of special courses in higher technology has been published by the London and Home Counties Regional Advisory Council for Technological Education. It lists the advanced courses held in London and the Home Counties which do not regularly appear in college prospectuses as part of a grouped course or as endorsement subjects on HNC. It gives the number of meetings, dates, lecturers, content and type of student for whom it is designed. It is available from the Secretary, Regional Advisory Council, Tavistock-house south, Tavistock-square, WC1, price 3s. 6d., or 6s. to include the spring and summer list which will be issued in December.

Middlesex Education Committee

THE MIDDLESEX EDUCATION COMMITTEE has published from 10 Great George-street, SW1, the 1961-1962 edition of 'Gateways,' which provides a comprehensive guide to the county's courses of further education. It covers courses in building, surveying, national certificates and diplomas, and CGLI courses.

Hertfordshire College of Building

THE HERTFORDSHIRE COLLEGE OF BUILDING at Hatfield-road, St. Albans has announced details of forthcoming courses. A course on small pipe central heating (fee £1) is commencing on September 28, 1961, and January 17, 1962, and on lead-burning for plumbers and plastics (fee £1 each) in September and January respectively. Also included are courses on formwork (fee 35s., commencing November 1), the steel square (10s.) and estimating for joinery (£1) both commencing in September, portable powered tools (10s., February) and timber technology (10s., January). There is also a course entitled 'Building High' which, in eight lectures, deals with the problems of building and providing services for high buildings. It starts in October and the fee is £1. Two courses of six lectures each (fee 10s. each) cover building fixings and anchorages, and building economics.

Ealing Technical College

THE DEPARTMENT OF GENERAL STUDIES at Ealing Technical College has arranged a course for technical authors on the presentation of technical information, and another on effective reading. Details from the college at St. Mary's-road, W5.

Willesden Technical College

THE DEPARTMENT OF ARCHITECTURE AND BUILDING of Willesden Technical College in its prospectus for 1961-62 announces that enrolment begins on Friday, September 8, 1961, and classes on Monday, September 18. In addition to the usual courses for trade and professional examinations, a series of twenty lectures on shell roof design and nine lectures on the load-factor design of reinforced concrete have been arranged commencing in October. There is also a course of ten lectures on prestressed concrete design and construction commencing in January. Further details from Denzil-road, NW10.

Production of Bricks and Cement

All-round Increases Reported

ACCORDING TO FIGURES collected by the Ministry of Works, 600m. bricks were produced in Great Britain in July. This was 4 per cent more than in the same month last year. During the first seven months of this year, 3 per cent more bricks were produced than in the same period last year. Stocks were higher at the end of July than they were a year ago in spite of deliveries exceeding production by some 10m. bricks in July this year.

It is still necessary, however, for orders to be registered with the brickmakers well in advance of the date when delivery is required if delays are to be avoided.

Cement

During the four weeks ended July 31, 1,157,000 tons of cement were produced. Production up to the end of July this year was 7 per cent higher than in the same period last year and deliveries to the home market were 11 per cent higher. Imports continued to rise and in July were more than twice as high as in May. Deliveries for export continued to drop.

WEEKLY AVERAGES OF BRICK AND CEMENT PRODUCTION

Period	All bricks (millions)			Flettons (millions)			Cement (thousand tons)	
	Production	Deliveries	Stock at end of period	Production	Deliveries	Stock at end of period	Production	Home deliveries
1960 January–July	139	139	88	56	56	26	256	238
July	130	130	88	55	55	26	275	258
1961 January–July	143	145	112	58	58	21	273	264
July	135	138	112	55	55	21	289	283

NOTE.—(*a*) Brick figures relate to Great Britain.
(*b*) Cement figures relate to the United Kingdom.

Structural Steel

Move to Rationalise Production

PROPOSALS are under consideration for a new British Standard which will substantially reduce the number of sizes of steel beams rolled in this country. Such rationalisation should lead to greater economy in steel production and thus improve the position of British makers of structural steel and British fabricators seeking business on the Continent and in other countries.

The proposal will permit of more frequent rolling of all sizes in the new list, resulting in speedier delivery, and will assist in standardisation in design, thus facilitating work in the drawing offices.

The only effective way of ensuring cheap steel is by adopting a sensible range of sizes which will enable modern mills designed for mass production to be adequately loaded, and so achieve the minimum production costs of which they are capable.

Since the introduction of universal beams in 1958, the number of I and H profiles has risen to 71. Adoption of the proposals which have been submitted to the British Standards Institution will reduce the number to 27.

Recently two more steelmakers have brought into operation universal beam mills and two other mills are planned.

The British Constructional Steelwork Association, representing the fabricators, is co-operating with the steelmakers.

The new British Standard now under consideration will be established, it is hoped, by the end of this year and on January 1, 1963, the existing British Standard covering the sizes and weights of structural steel will be withdrawn.

It is pointed out that the desire of steel users for a multiplicity of sizes must be tempered by the cost of producing them. The designer's wish to keep the weight of steel to an absolute minimum can, in fact, increase the overall cost of steel in a structure. The necessity of rolling small quantities of a wide range of sizes conflicts with the modern mass production methods of the highly expensive equipment now used by the steel industry.

Development by Government Departments

Concern at Lack of Consultation with Local Authorities

CONCERN at the apparent lack of adequate consultation by Government Departments contemplating development in the county was expressed by SIR HOWARD ROBERTS at a meeting of the Development Control Sub-Committee of Surrey Town and Country Planning Committee on August 16. He urged that there should be more consultation between these Departments and the local planning authority before decisions were made.

Speaking under an appendix indicating the extent of the development by Government Departments in the county, Sir Howard, who is a former President of the Town Planning Institute, declared that the principle here was so important that the attention of the appropriate body of the County Councils' Association should be drawn to the matter. They ought to secure an assurance, he said, that consultations would be carried out in accordance with the Minister's wishes. The Government's powers in matters of development were pretty strong.

Endorsing Sir Howard's point, SIR JOHN WENHAM said: 'Whitehall wants to be put firmly in its place. It is most high-handed sometimes.' He felt they should go further and ask Sir Cyril Black, MP, to put down a question when the House of Commons re-assembles.

It was agreed that officers should try to secure information of cases where there had been a lack of consultation and bring to the sub-committee a report giving details of each case to form the basis of whatever action might be taken.

Obituary

George Frederick Thomas; Robert Sharpe Hill; William Angus Macfarlane

THE DEATH HAS OCCURRED suddenly at his home, in Brecon-road, Handsworth, of Mr. George Frederick Thomas, FRIBA. Mr. Thomas, who was 78, was a grandson of the late Joseph Lucas, but decided on a career in architecture, joining a Birmingham firm as an articled pupil in 1896. He was one of the partners forming the firm of J. Alfred Harper & Son, when it was founded in 1939, and subsequently was associated with the design of several prominent buildings in Birmingham. These included the Phœnix Assurance building in Colmore-row, for which the firm won a design competition.

Robert Sharpe Hill, FRIBA

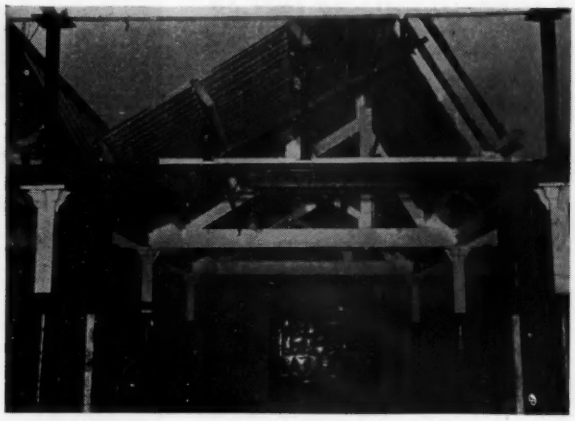
THE DEATH has occurred of Mr. Robert Sharpe Hill, FRIBA, of Belfast, one of Northern Ireland's oldest practising architects. He was 83.

Mr. Hill was elected licentiate of the RIBA in 1943 and became a fellow two years later.

Dr. W. A. Macfarlane, CBE

WE REGRET TO RECORD the death at his home at St. Albans on August 19 of Dr. William Angus Macfarlane, CBE, president of the Institute of Fuel. He was 53.

On the formation of the Ministry of Fuel and Power in 1941 Dr. Macfarlane was appointed Director of Fuel Efficiency, continuing as such until 1948 when he went to the USA as Director of the United Kingdom Scientific Mission and Attaché for Scientific Questions, British Embassy, Washington. In 1943 Dr. Macfarlane was elected a member of the Institute of Fuel. He became a fellow in 1951, was vice-president from 1955 to 58, and was a member of the publications committee. He had served continuously on the council since 1947 and became president in 1960. He was awarded the CBE in 1958. At the time of his death Dr. Macfarlane was managing director of the National Industrial Fuel Efficiency Service.

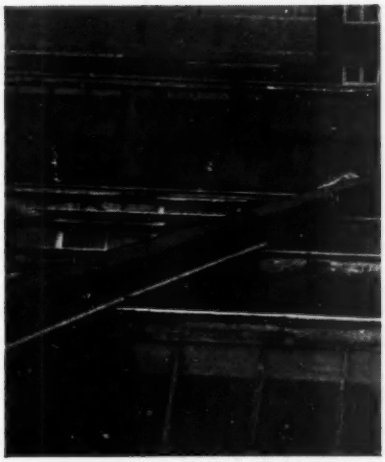


Above left: View during the lifting operation. Right: Temporary truss construction to support purlins

Raising the Roof

Lift Slab Technique Used for Vertical Expansion

IN COMPANY WITH many other consumer goods manufacturers, Rowntree and Co., the York chocolate manufacturers, have lately been having difficulty in providing sufficient storage space for their produce awaiting transport. With little space in which to expand laterally, it was decided to investigate the possibility of expanding upwards, and eventually the British Lift Slab Ltd. was entrusted with the task of raising a section of the storeroom roof. The section of the roof in question was a self-contained section of the storeroom



Above: Part of the roof after completion, showing, in the background, the section which had been raised 5 ft. On right is shown a lifting trestle and jack

95 ft. long and 42 ft. wide. The roof was of the north light section and was supported on six heavy wooden trusses. These were thought to be about 40 years old, and were supported on the brickwork of the storeroom walls and by two intermediate columns. The steeper slope of the roof was continuously glazed and the other side slated.

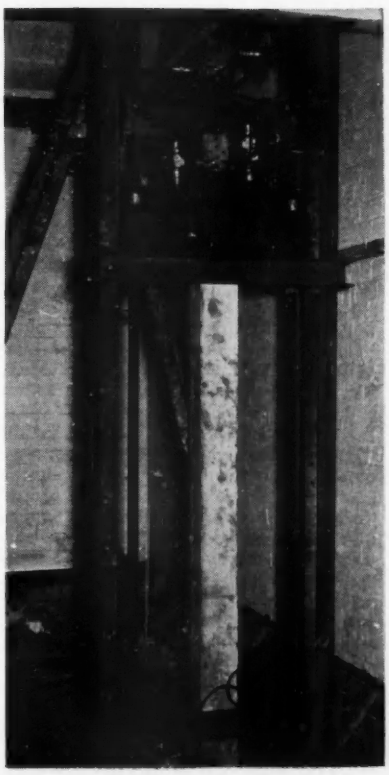
On investigation it was found that the trusses were not continuous across the building but were divided by the valley beam. It was also found that this valley beam, a 10 ft. x 4 in. rsj, was not continuous but that each beam was split in three positions.

The total load of the roof, approximately 51 tons, was within the lifting scope of one of the 'lift slab' jacks, but the lack of continuity of the structure caused difficulties in the transference of load. It was therefore found necessary to lift the area of the roof in two sections and to do this with 16 jacks at 16 lifting points.

In normal lift slab practice the jack sits on the top of the columns and by means of high tensile steel rods lifts the slab towards itself. Because the roof was already sitting on top of the columns the method could not be used at York, and so it was necessary to contrive a method of adapting the jacks to push from below rather than pulling from above. This was brought about by using a sliding steel trestle consisting of a U-section sliding on a T-section. The jack sits on the latter and is connected to the former by the high tensile steel rods. As the jack lifts so the rods rise, lifting the U-section which has a sliding member which passes through the collar on the T-section and so lifts the structure.

Because of the lack of continuity of the roof it was decided that the internal jacks should lift in pairs and that these should lift against beams especially provided for the purpose. The beams used were the dsl centring girders of Messrs. Rapid Metal Developments Ltd. Before lifting was started the area was divided into two by cutting through the purlins and valley beams and removing the glass and slates over the cutting line. Apart from this, no other slates or glass were removed.

The roof was divided 10 in. from the centre truss and parallel with it. This meant that the valley beams and purlins would be cantilevering from the next truss. It was therefore necessary to build a temporary truss to support these members both prior to, and during lifting. This was done with further dsl girders and Rapid Metal Patent trench props. With 16 jacks in position, the first area was lifted and the column extension placed in position on top of the existing columns and bolted up. Temporary supports were provided for the extremities of the trusses until such time as the brickwork was brought up to provide bearing. The equipment was then removed and transferred to the second half and lifting completed. Column extensions were then placed and beams and purlins reconnected.



FCEC Handbook 1961-62

Data for the Engineer

THE FEDERATION OF CIVIL ENGINEERING CONTRACTORS has issued its handbook for 1961-62. It gives details of the officers of the federation and lists the members of the section executive committees. Members of the federation are listed both alphabetically and under the different areas. The handbook includes the constitution of the Civil Engineering Construction Conciliation Board and the rules of procedure for the speedy settlement of disputes. The industrial agreements section also includes the other main agreements to which the federation is a party; the working rule agreement as at February 1961 is given. There is a large section dealing with conditions of contract which, in addition to the ICE conditions, includes the variation of price clause and various 'slips' for attaching to tenders.

There is a section on training in which three schemes are outlined for training engineers, contractors' plant mechanics and maintenance mechanics. Details are given of the civil engineering scholarship trust. In the plant section are the federation schedules of dayworks, and the general conditions of plant hiring as agreed between the Contractors' Plant Association and the federation. A list is given in the back of the main publications available from the federation. The handbook is available from the head office at Romney House, Tufton-street, Westminster, SW1, price 12s. 6d.

NEW OFFICES, ENFIELD.—*The recently completed building for the Tricity Finance Corporation Ltd., at Southbury-road, Enfield, Middx. The building was designed by Mr. A. J. Fowles, FRIBA, and the general contractors were Paterson & Dickinson Ltd. (subsidiaries of Ford & Walton Ltd., and members of the Chamberlain group of companies). Other companies of the group participating were W. G. Cannon & Sons Ltd., heating installation; L. F. Richardson Ltd., formwork for reinforced concrete frame; and special departments of Ford & Walton Ltd. carried out the electrical installation, plumbing and painting*

Progress in Road Schemes

£40m. for Three Major Projects

THE BRITISH ROAD FEDERATION has issued the twelfth chart in its series 'See How They Go,' which shows all the road projects started from January to June 1961 with their cost and estimated completion dates, and reports on projects listed in earlier issues. It is available from the Federation at 26 Manchester-square, London, W1.

Almost £57m. will be spent on twenty-seven major road construction schemes started in the past six months, of which approximately £40m. will be for three motorway projects. The Lancashire section of the Birmingham to Preston motorway, due to be open for traffic in June 1963 will cost over £17m. and the Medway Motorway costing more than £13m. is due to be finished in April 1963. Four months later the North Cheshire section of the Birmingham to Preston motorway should be complete, at a cost of almost £10m. Other improvements on which work has begun include the Slough By-pass, which is costing some £5m. and should be ready by April 1963. Work on the Medway Bridge, which will be part of the Medway Motorway, commenced during the period July to December last year and is also expected to finish at the same time. Birmingham, Sheffield and Bristol are among the urban centres in which large-scale improvements to classified roads are now taking place. The work in Birmingham is the construction of a £1m. underpass along Coventry-road.

Safety Competition

Reduction in Accident Rate

A REDUCTION in the accident rate at Cubitts' building sites was announced recently by Mr. J. M. Harris, managing director of Holland & Hannen and Cubitts (Great Britain) Ltd. Presenting the company's new safety cup for the first time, he said that the company's accident frequency had dropped from 2.24 in the first six months of 1960 to 1.67 in the first six months of this year. The frequency rate for the last six months of 1960 was 1.7. The main point of the safety cup is its recognition of efforts to prevent accidents in addition to the results actually achieved. This makes it possible for the larger sites to compete on equal terms with the smaller ones with relatively fewer workmen, which find it easier to avoid accidents and therefore show up well in the actual accident figures. The cup goes to the site which not only has a good safety record but also pays the greatest attention to compliance with the building regulations.

Decrease in Iron Castings Production

FIGURES ISSUED by the Joint Iron Council show a decrease of 5.8 per cent in the production of iron castings for the building and domestic section in the second quarter of 1961. The output at 142,200 tons was 3 per cent higher than for the same period last year.

Throwing a Brick

Stroud International Contest

THE STROUD (GLOS.) SHOW puts on a brick throwing contest annually, writes a correspondent, and they have recently been stung into a new approach to next year's international contest by the results from Stroud, Oklahoma, where throwers took the first four places with average throws of 102 ft. 6 in. At Stroud, Ontario, the average throw was 9 ft. 4 in. giving the Canadians second place. Third place was gained by the Gloucestershire people with average throws of 91 ft. Last came Stroud, New South Wales, without any of the six-man team getting qualifying places.

Hidden Talent

A special committee is to be formed to search out the hidden talent in the West Country, and to plan a training campaign. The secretary of the Stroud (Glos.) Show said: 'Next year we must put 100 ft. as the minimum. If anyone thinks he can throw that far he should get in touch with me at once and I will let him have a supply of bricks to practise with.'

Brickworks throughout the country will be asked if they can produce a brick to the specified dimensions which weighs 5 lb. The Americans have such a brick, which is thought to give them an advantage, but locally trouble has been encountered in getting the weight and measurement correlated. It seems that not all brick problems are concerned with laying or dropping.

THE BUILDER LONDON MEASURED RATES

These prices for new building work in London normally appear in the first issue of each month only. The prices are inclusive of all allowances for National Insurance, Holidays with Pay and Public Holidays, Third Party Risk, Travelling Allowances and Guaranteed Week. They cover a profit of 10 per cent on the prime cost without any addition for establishment charges.

These rates do not include for Foremen and other preliminary items, such as office, sheds, plant and scaffolding, etc., and these must be added accordingly.

The basic cost of the labour and materials used in arriving at the rates has been derived from the 'Current Prices of Materials' published in *The Builder*.

The data given are copyright. While every endeavour is made to ensure accuracy, we do not hold ourselves responsible for any error that may occur.—EDITOR.

EXCAVATOR

All hand labour	*Per yd. cube*									
	Loose earth		*Firm soil*		*Stiff clay*		*Chalk and flints*		*Rock, etc., no blasting*	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
Surface excavation to shallow depths	8	3	10	3	11	9	17	10	46	0
Bulk do. or large trenches, etc., not exceeding 5 ft. deep ...	7	6	9	4	10	9	15	10	42	0
Trenches do. under 4 ft. 6 in. wide and do.	10	0	12	1	14	0	20	8	55	0
Pier holes and similar under 6 ft. square and do.	11	3	13	10	16	2	23	9	61	6
Additional throw for every 5 ft.:										
Bulk excavation	3	9	3	9	5	5	5	5	6	2
Trench ,, ...	5	0	5	0	6	8	6	8	7	8
Pier ,, ...	5	7	5	7	7	6	7	6	8	6
Return, fill and ram	5	2	5	2	6	8	6	8	8	2
Wheeling surplus n.e. 100 yds. run and depositing	7	2	8	0	8	0	8	0	9	0
Underpinning in trenches ...	13	4	18	6	21	6	30	9	—	

	s.	d.
Loading lorries and transporting to tip ... ... Yd. cube	16	5
Basketing out and depositing ... ... ,,	10	0
Planking and strutting to sides of surface or basement trenches :		
Depth up to 5 ft. ... ... Ft. sup.		6
,, ,, 10 ft. ... ... ,,		8
,, ,, 15 ft. ... ... ,,		9
Hardcore :		
Filled-in layers and consolidated ... ... Yd. cube	22	3
do. 4 in. thick ... ... Yd. sup.	3	3
do. 6 in. thick ... ... ,,	4	4

CONCRETER

	Basic yard cube rates							
	1:12		1:3:6		1:2:4		1:1½:3	
Aggregate	1½ in. all-in		1½ in.		¾ in.		½ in.	
Concrete in normal foundations : (minimum 8-ton cement loads)—	s.	d.	s.	d.	s.	d.	s.	d.
Portland cement standard specification	67	0	75	3	82	8	87	0
Portland cement rapid hardening	68	3	77	1	85	2	90	4
Water-repellent cement	71	0	81	0	91	0	97	6

	s.	d.
Add to above basis for :		
4 in. surface beds ... ... Yd. sup.		7½
6 in. ,, ,, ... ,,		8½
(If above two items worked around mesh reinforcement, add 5d. per yd. *super.*)		
Foundations in underpinning in short lengths ... Yd. cube	16	4
Beds and flaunchings to drains ... ... ,,	8	2
Pier or stanchion foundations—small ... ... ,,	4	1
Sundry small items not exceeding 3 ft. cube in plinths, curbs, padstones, etc. ... ... ,,	21	6

REINFORCED CONCRETE

ADD to above 'Basic Yard Cube Rates'

	s.	d.
Reinforced concrete including working around reinforcement between formwork and hoisting to normal levels :		
Foundations and similar ... ... Yd. cube	5	5
Isolated stanchion or pier bases ... ... ,,	6	5
Walls not exceeding 6 in. thick ... ... ,,	26	8
,, ,, ,, 12 in. ,, ... ,,	18	8
Suspended floors or flat roofs 4½ in. thick ... ... Yd. cube	21	6
,, ,, ,, ,, 6 in. ,, ... ,,	17	5
,, ,, ,, ,, 9 in. ,, ... ,,	14	10
(Beams attached to floors or flats, *add* 6/8 yd. cube)		
Isolated beams or lintels average 72 sectional inches ... ,,	32	3
Do. average 144 sectional inches ... ... ,,	24	1
Columns or stanchions average 72 sectional inches ,,	37	8
,, ,, ,, ,, 144 ,, ,, ,,	29	5
Staircases and landings, etc. ... ... ,,	56	1
Shell roofs average 3 in. thick, including labour forming curved surface ... ... ,,	133	3
Hollow tile floors :		
Hollow clay tiles 4 in. thick with 1 : 2 : 4 concrete ribs at 14 in. centres with filler tiles and 1½ in. fine concrete screed (excluding reinforcement and form work) ... ... Yd. sup.	19	4
All as above but 6 in. thick clay tiles ... ... ,,	23	5
,, ,, ,, ,, 9 in. ,, ,, ,, ... ,,	32	7
Sundry items :		
2 in. concrete (1 : 2 : 4) blinding bed ... ... Yd. sup.	5	0
Spade finish to concrete beds ... ... ,,		10
Trowel ,, ,, ,, ... ,,	1	10
Laying to falls and currents ... ... ,,	1	0
Hacking concrete by hand ... ... ,,	2	8
Hacking concrete by use of proprietary liquids ... ,,	1	7
Damp-proof membrane in three coats with sanded key ... ... ,,	4	10
⅜ in. Bitumen expansion joints 4 in. deep in floors ... Yd. run	3	11

	Mild steel rods (round) cut, bent, hooked, wired and fixed complete (Ex. London Stock)							
	¼ in.		⅜ in.		½ in.		⅝ to 1 in.	
Reinforcement :	s.	d.	s.	d.	s.	d.	s.	d.
Floors beams laid in only ...	88	6	79	4	73	8	70	3
,, ,, ,, wired into frames	100	7	90	0	85	10	80	3
Walls wired into frames	100	7	90	0	85	10	80	3
Columns wired into frames ...	100	7	90	0	85	10	80	3
Staircases wired into frames ...	102	11	92	4	88	2	82	7

	s.	d.
Steel mesh fabric reinforcement :		
Laid in floors including laps and straight cutting and wiring, etc. :		
Weight 3.94 lb. per yd. sup. ... ... Yd. sup.	4	3
,, 4.71 lb. ,, ,, ,, ... ,,	4	6
,, 9.32 lb. ,, ,, ,, ... ,,	8	4
Raking cutting worth 6 in. material cost per ft. run		
Circular cutting worth 9 in. material cost per ft. run.		
Formwork (Sawn) including strutting, easing and removal and average four times use of timber :		
Soffit of floors and flat roofs ... ... Yd. sup.	16	9
Sloping soffits of stairs ... ... ,,	22	10
Barrel-vault soffits of floors and roofs ... ... ,,	21	4
Vertical sides of walls ... ... ,,	16	0
Battering sides of walls ... ... ,,	20	10
Columns ... ... Ft. sup.	2	5
Lintels and beams ... ... ,,	2	7
Staircase strings cut to tread and riser ... ... Ft. run	3	7
Edges of concrete floors, etc., up to 12 in. deep per inch in height ... ... ,,		2½
Rebates or similar per inch girth up to 6 in. girth ... ,,		2½
Raking cutting ... ... ,,		8½
Extra cost for wrought shuttering and labour rubbing down to leave fair face on concrete ... Yd. sup.	2	7
Pre-cast Concrete (1 : 2 : 4) including fair face :		
4½ in. x 6 in. reinforced lintels ... ... Ft. run	3	0
9 in. x 6 in. ,, ,, ... ,,	5	3
9 in. x 9 in. ,, ,, ... ,,	8	7
Steel Formwork :		
Steel shuttering forms with patent expanding floor centres and telescopic props not less than four times use on each job with continuous use ... Yd. sup.	11	6

Partitions : (Minimum 100 yd. super)	*Yd. super rate*			
	2 in.	*3 in.*	*4 in.*	*6 in.*
	s. d.	s. d.	s. d.	s. d.
Clinker concrete slab partitions in cement mortar	9 9	12 6	14 9	—
Cranham terra cotta slab partitions in cement mortar	14 1	17 0	20 0	—
Moler partition block partitions in cement mortar	19 10	23 0	25 11	—
Thermalite-Ytong partition blocks in cement mortar	—	15 8	19 4	27 7
'Phorpres' hollow clay partition blocks in min. of 6-ton loads ...	10 3 (2½ in.)	12 2	15 2	24 11

Cuttings :

Raking cutting and waste = ⅓ of ft. sup. rate
Circular „ „ „ = ½ of ft. sup. rate
Cutting around openings = ¼ of ft. sup. rate
Cutting and bonding at angles, intersections and ends all at 6d. ft. run.

BRICKLAYER	*Yd. super rates*			
	Plain flettons	*Rough stocks*	*Second stocks*	*Blue wire-cuts*
	s. d.	s. d.	s. d.	s. d.
Brickwork in cement mortar (1 : 3) reduced to one brick thick	38 5	51 8	61 4	93 10
Deduct if in 1 : 1 : 6 cement-lime mortar	10	10	10	10
Add if in :				
Filling in openings	5 8	5 8	5 11	7 2
Backing to masonry	2 10	2 10	3 0	3 8
Building overhand	1 10	1 10	1 11	2 2
Raising on existing work	2 10	2 10	3 0	3 8
Circular on plan to quick sweep ...	5 6	5 6	5 9	6 10
Small detached piers, plinths, etc.	8 4	8 4	8 9	10 5
Underpinning	5 6	5 6	5 10	6 11
Brick-on-edge walls	13 2	18 2	21 2	—
Half-brick sleeper walls honeycombed	13 9	18 7	—	—
Half-brick walls	21 6	29 3	33 11	51 5
do. with fair face and pointing both sides as work proceeds	24 8	—	37 3	54 6
One-brick wall with fair face and pointing both sides as work proceeds	43 8	—	66 4	99 8
11 in. cavity brick wall with two half-brick skins with 2 in. cavity and three galvanised iron twisted ties to every yd. sup.	46 3	—	71 2	—

Sundry items :		s. d.
Horizontal double slate damp-proof course ...	Ft. sup.	3 4
Vertical „ „ „ „ ...	„	4 1
Hessian-base bitumen damp-proof course	„	1 6
Levelling and preparing for raising on	„	1 0½
Cutting, toothing and bonding new to old	„	3 8
Wedging and pinning with slates in underpinning ...	„	5 2
Rough cutting	„	6
Cutting and fitting brickwork around steel	„	6
Bed and point frame one side	Ft. run	4
Rough cutting squint or birdsmouth	„	6½
Labour plumbing angles on faced work	„	2½
Rake out and point to lead flashing	„	7½
„ „ „ „ stepped flashing		10½
Cutting groove for skirting and point	„	1 7
Shallow chases for small pipes and conduit	„	1 9
Metal reinforcement 24 gauge 2½ in. wide	„	4½
Faced work : (Flemish bond) :		
Add or deduct for every 10s. per 1,000 difference from basic price of common bricks in Flemish bond in solid work	Yd. sup.	9
do. to half-brick wall in stretcher bond	„	6½
Add for extra labour to each side in facings and pointing as work proceeds	„	3 2
do. butt joints raked out and pointed with special mortar	„	6 3

If built in English bond, add 12½ per cent to above items.

Labours :

Fair cutting	Ft. run	1 1½
Fair circular cutting	„	1 4
Fair squint or birdsmouth cutting	„	1 9

Copings :		*9 in. wall*	*14 in. wall*
		s. d.	s. d.
Brick-on-edge coping in flettons finished fair and pointing as work proceeds ...	Ft. run	2 5	3 3
Add for every increase by 10s. per 1,000 in cost of superior bricks	„	1	1½
Add for two courses of roofing tiles unde and cement weather fillets on both sides	„	3 7	4 4
Cills :			
Two courses of roofing tiles laid breaking joint in cement mortar, set weathering and pointing ...	Ft. run	3 7	
Arches :			
Extra over fletton brickwork for brick-on-end flat arch 4½ in. on soffit and 9 in. high in facings p.c. 350s. per 1,000 and pointing	Ft. run	3 7	
Extra over fletton brickwork for fair axed arch in stock facings p.c. 350s. per 1,000 and pointing (cuttings measured separately)	Ft. sup.	9 3	

CURTAIN WALLING

Curtain walling of hollow, extruded, aluminium alloy mullion and transom units fixed together to form a grid to conventional steel and concrete framework, including glazing complete and a reasonably priced infilling panel and subject to the number of vents, etc., required, a fair average price is from 22/- to 27/6 per ft. sup.

PAVIOR

	Yd. super rates			
	½ in.	*¾ in.*	*1 in.*	*1¼ in.*
	s. d.	s. d.	s. d.	s. d.
Cement screed (1 : 3) to receive pavings	4 5	5 3	6 1	6 11

Add to above for :		d.
Trowelling smooth	Yd. sup.	7
Narrow widths or small quantities—add 25 per cent. to plain surfaces : Laying to falls	„	4

	Yd. super rates			
	1 in.	*1¼ in.*	*1½ in.*	*2 in.*
	s. d.	s. d.	s. d.	s. d.
Granolithic paving (1 : 2½) laid on concrete	8 9	9 11	12 0	13 2

Add to above for :

Narrow widths or small quantities—add 25 per cent. to plain surfaces.		
Surface hardening with three coats of silicate of soda	Yd. sup.	s. d. 1 5
Carborundum finish with 2 lb. p ...up. trowelled in	„	3 0
¾ in. skirting 5 in. high covered at bottom and fair top edge	Ft. run	2 9
Mitres and ends—7d. each.		
Composition flooring ½ in. thick	Yd. sup.	18 0
Terrazzo paving ⅜ in. thick	„	45 0
Rubber flooring ¼ in. thick	„	65 0

ASPHALTER

		Mastic BSS 988	*Natural rock BSS 1162*
Asphalt roofing :		s. d.	s. d.
¾ in. flat to falls in two thicknesses on felt underlay on prepared screed	Yd. sup.	14 3	20 0
do. in small quantities or narrow widths	Ft. sup.	2 0	2 9
6 in. high skirting with angle fillet and splayed edge at top	Ft. run	2 7	3 0
External angles on do.	No.	7	7
Internal angles on do.	„	7	7

		Mastic BSS 1097	*Natural rock BSS 1418*
Asphalt Damp-Proof Course and Tanking :		s.	d. s. d.
Vertical damp-proof course in 2 thicknesses	Yd. sup.	21 0	27 0
do. in narrow widths	Ft. sup.	2 6	3 4
¾ in. Horizontal damp-proof course in two thicknesses	Yd. sup.	14 4	19 9
do. in narrow widths	Ft. sup.	1 10	2 6
Vertical tanking in three thicknesses ...	Yd. sup.	25 0	31 4
1½ in. Horizontal do. in three thicknesses	„	19 3	29 2
Labour double angle fillet	Ft. run	1 4	1 4

DRAINLAYER

	Per yd. run Depth of trench				
	2 ft.	3 ft.	4 ft.	5 ft.	10 ft.
Excavate trench, part return fill and ram and remove surplus, inc. planking and strutting. (In firm soil—if in clay or chalk adjust in accordance with previous excavation rates)	s. d. 8 3	s. d. 21 7	s. d. 28 10	s. d. 36 0	s. d. 106 3

	Per yd. run		
	4 in.	6 in.	9 in.
Concrete (1 : 6–1½ in agg.) 12 in. wider than external diameter of pipe in 4 in. bed and benching up on both sides	s. d. 8 0	s. d. 8 10	s. d. 11 3
do. but 6 in. bed and do.	9 7	11 3	13 7
do. but 4 in. bed and surround to pipe	11 7	14 5	19 0
do. but 6 in. bed and surround to pipe	15 7	18 10	23 9
	Per ft. run		
Salt glazed drain pipes laid and jointed in trench (Minimum two-ton loads) :	4 in. s. d.	6 in. s. d.	9 in. s. d.
'Seconds'	2 10	4 0¼	6 5¼
'Best'	3 1¼	4 5¾	7 3
'Best Tested'	3 10½	5 6½	9 2¾
'British Standard'	3 3¾	4 9	7 9½
'British Standard Tested'	4 1	5 10	9 7¼
Extra for bends 'Best' quality	4 4	6 5	18 6
Extra for junctions 'Best' quality	7 8	10 10	23 4
Cast-iron drain pipes to BSS 437 laid and jointed with molten lead in trench	15 3	22 6	—
Extra for :			
Short lengths	4 0	5 1	—
Bends and extra joints	22 6	59 0	—
Junctions and do.	46 3	102 8	—
Cast-iron gulley trap with 9½ in. x 6½ in. grating and joint	45 2	—	—
Cast-iron rainwater shoe with vertical inlet, inspection door and bedding and joints ...	70 3	—	—
Cast-iron inspection fittings with single branch fitting one side	164 0	—	—

	Per ft. run		
	3 in.	4 in.	6 in.
Pitch fibre pipes to BS 2760 and laying and jointing in trench (in loads of £60 to £250)	s. d. 2 6	s. d. 3 3	s. d. 6 2

		4 in.	6 in.
Manhole items :		s. d.	s. d.
Brown glazed stoneware straight, half-round channels	Each	5 4	7 8
do. ordinary channel bends... ...	„	11 10	16 11
Three-quarter section curved channel bends with splayed ends	„	15 0	21 6
Cast-iron heavy galvanised steps	Each		13 0
Bedding and sealing medium weight manhole covers and frames (cost of cover to add)...	„		10 0
do. heavy road covers and frames	„		13 3

MASON

		Per ft. cube		
		Bath	Portland	York
Stone and all labours fixed in :		s. d.	s. d.	s. d.
Ashlar average 6¾ in. on bed ...	Ft. sup.	32 8	37 5	39 0
Moulded string course 9 in. x 6 in.	Ft. run	28 4	31 0	33 10
Moulded cornice 18 in. x 9 in. ...	„	71 6	77 6	82 6
Weathered and throated cills :				
9 in. x 3 in.	„	17 10	19 3	20 7
12 in. x 6 in.	„	35 9	38 0	40 2
Weathered and throated copings:				
12 in. x 3 in.	„	19 3	21 0	21 9
14 in. x 6 in.	„	38 0	43 0	44 6
Plinth rubbed top and face size :				
4½ in. x 9 in.	„	19 6	21 9	21 0
Plain steps, size 12 in. x 6 in. ...	„	—	—	35 9
„ „ „ 14 in. x 2 in. ...	„	—	—	16 9
Riser, size 2 in. x 4 in. ...	„	—	—	8 0
2 in. Sawn paving edges squared in random sizes	Yd. sup.	—	—	98 0
Supplied only :				
Templates and cover stones coped edges	Ft. cube	—	—	33 6

ROOFER

	Yd. sup.
	s. d.
Bituminous built-up roofing in two layers of felt, the first layer 45 lb. and the second 55 lb. to BS 747, covered with limestone or granite chippings n.e. ¼ in. thick	10 0
All as above but in three layers, the first and second layers in felt 45 lb.	13 9

	Steel Tees at	
	2 ft. 0½ in. centres	4 ft. 0½ in. centres
2 in. compressed straw building slabs in standard sizes fixed complete with 18G steel tees with fixing clips to steel structure to form roof decking :	s. d.	s. d.
Areas of 50–100 yds. sup.	27 8	21 4
„ 101–250 „	26 10	20 9
„ 251–750 „	26 0	20 3
„ Over 750 „	25 2	19 4
If 16G steel tees are used—Add to above	1 5½	9

Welsh slating	Per square		
	16in.x8in.	18in.x10in.	20in.x10in.
Laid with 3 in. lap and 2 zinc nails each slate	s. d. 382 0	s. d. 411 0	s. d. 509 0
Additional labours :			
Top edge cutting ... Ft. run	9	9	9
Square abutment do. „	9	9	9
Double course at eaves... „	1 3	1 3	1 3
Raking, cutting and waste „	11	11	11
1½ in. x ¾ in. slate battening for last ... ... Per sq.	36 9	33 0	29 3

Roof Tiling	Per square		
	Berkshire hand-made	*Stafford machine made*	*Concrete Tiles*
Roof tiling with 10½ in. x 6½ in. tiles laid to a 4 in. gauge, every fourth course fixed with two galvanised nails	s. d. 264 0	s. d. 253 0	s. d. 163 3
1 in. x ¾ in. tile battening for last	39 6	39 6	39 6
Additional labours :			
Top edge cutting ... ... Ft. run	9	9	9
Square abutments do. ... „	9	9	9
Raking cutting to hips ... „	11	11	11
Eaves course ... ... „	11	11	11
Half-round ridge and hip tiles ... „	2 11	2 11	2 11

CARPENTER AND JOINER

	Ft. cube			
	Plates	*Joists*	*Rafters & Partitions*	*Roof trusses*
Softwood carcassing, including all waste, nails, hoisting and fixing	s. d. 17 1	s. d. 19 10	s. d. 22 10	s. d. 27 4

	Per square		
	¾ in.	1 in.	1¼ in.
Boarding and Flooring : (Softwood) :	s. d.	s. d.	s. d.
Rough boarding to flats and roof... ...	126 9	162 3	197 7
Softwood plain edge flooring cleaned off	156 9	175 9	213 10
Tongued and grooved flooring cleaned off	170 9	197 7	239 10

		s. d.
Extra for 2 in. x 3 in. average firrings	Per sq.	81 7
Herringbone strutting to 2 in. x 8 in. joists	Ft. run	1 10
1 in. gutter boarding and bearers	Ft. sup.	3 9
Raking, cutting and waste on 1 in. flooring	Ft. run	9
Composition Boards, etc. :		
¼ in. hardboard to BS 1142 fixed to vertical battens	Yd. sup.	6 9
½ in. insulation board to BS 1142 do. do.	„	6 11
1 in. woodwool slabs fixed to flat or sloping soffits	„	9 7
2 in. compressed straw building slabs in standard sizes fixed to wood bearers to flat or sloping surfaces in quantities of 101 to 250 yds. super	„	14 8
¼ in. flat asbestos sheeting fixed vertically	„	11 0

Wood Block Flooring :		s. d.
1 in. nominal West African mahogany flooring laid herringbone pattern in mastic...	Yd. sup.	34 6
1 in. do. Agba	,,	34 6
1 in. do. Sapele	,,	36 3
1 in. do. Beech	,,	39 0
1 in. do. Rhodesian Teak	,,	52 0

Extra for preparing and polishing 2/3 yd. sup.

	Sectional area		
	n.e. 4 in.	*4–6 in.*	*ex. 6 in.*
Skirtings :	s. d.	s. d.	s. d.
Softwood skirting with rounded or moulded edge, planted on including all labours in short lengths, mitres, etc., per in. in sectional area	3¾	3¼	2¾

Labours over 6 in.—Mitres = 1 ft. run. Return mould ends = 1 ft. 6 in. run
Sawn grounds nailed 3¼d. ft. run. If plugged + 7d. ft. run.

	Ft. super	
	Large sqrs.	*Small sqrs.*
Sashes and Frames : (Softwood) :	s. d.	s. d.
1½ in. rebated, rounded or moulded fixed	3 7	5 9
2 in. ,, ,, ,, ,, ...	4 0	6 2
Add for hanging on butts ... ... each	2 9	2 9
Double-hung sashes and frames with oak cills, purpose-made and not less than 1 doz. in each order: Quantities under 1 doz.—add up to ½ according to quantity. (Average size 4 ft. x 5 ft.)	10 8	14 6

Extra cost of boxed mullions 1s. ft. sup.
Extra for hanging sashes with lines, weights and axle pulleys 47s. each.

	Ft. super			
	1¼ in.	*1½ in.*	*1¾ in.*	*2 in.*
Doors: (All-purpose-made) (Softwood)	s. d.	s. d.	s. d.	s. d.
Softwood skeleton framed with hardboard flush both sides (standard internal pattern)	3 7	4 0	4 5	4 10
Framed, ledged and braced	—	5 1	6 2	6 4
Four panel square framed both sides	4 10	5 7	6 7	6 10
Add for each side moulded on last ...	6	6	6	6
do. flush framed	1 0	1 1	1 3	1 3
do. bead and butt do. ...	1 3	1 4	1 6	1 6
do. bolection moulded do. ...	1 6	1 6	1 6	1 6
do. raised and fielded do. ...	—	2 4	2 4	2 4

Rebated and beaded meeting stile 4d. ft. run.
Dwarf doors add up to 50 per cent. according to size.

	Sectional area					
	n.e. 6in.		*6-12 in.*		*ex. 12in.*	
Window and Door Linings and Frames :	s.	d.	s.	d.	s.	d.
Softwood linings per inch of sectional area		4½		4		3½
Add for cross-tongueing	—			1		¾
Frames, including rebating and once moulded or equivalent of two run labours, per sectional inch		4		3½		3

Transomes and cills plus 10 per cent. on frames.
Additional run labours plus 1½d. per ft. run.

	Per ft. run			
	Sectional area			
	1 in.	*2 in.*	*4 in.*	*6 in.*
Softwood Bearers, Fillets and Mouldings, etc. :	s. d.	s. d.	s. d.	s. d.
Wrot grounds, bearers, fillets, etc.	4½	7	11	1 3
Mouldings, picture rails, architraves, etc.	5	7½	11½	1 4
Framed legs and bearers or similar	9	11	1 4	1 10
Glazing heads, mitred and bradded	6	8½	—	—
Add for plugging	6	6	6	6
Add for brass cups and screws ...	2½	2½	2½	2½

	Thickness			
	¾ in.	*1 in.*	*1¼ in.*	*1½ in.*
Shelving (Softwood) :	s. d.	s. d.	s. d.	s. d.
Slat shelving 2 in. wide spaced 1 in. between ... ... Ft. sup.	2 0	2 3	2 8	3 1
9 in. shelving... ... ... Ft. run	2 0	2 4	2 10	3 6
Shelving over 9 in. wide ... Ft. sup.	2 7	2 11	3 7	4 2

1 in. x 2 in. chamfered bearers in short lengths, plugged, each 2s. 3d.

	Ft. super	
	1 in. treads	*1½ in. treads*
Staircases (Softwood) :	s. d.	s. d.
Treads and risers with moulded nosings, glued, blocked and bracketed on carriages	6 3	7 0
Cross-tongued winders	8 3	9 4

		s. d.
Strings, framed	Ft. run	4 9
Housings for treads and risers	Each	3 0
1 in. x 1 in. sq. balusters framed each end on rake ...	,,	4 1
3½ x 3½ in. sq. framed newel...	,,	5 2
Mahogany handrail, average 3 in. x 3 in.	Ft. run	8 10
,, ,, ramped	,,	26 0

FIXING ONLY IRONMONGERY

All to Softwood :	*Each* s. d.		*Each* s. d.
Barrel bolts	1 9	Rim locks	5 2
Flush bolts	6 3	Mortice locks	11 0
Sash fasteners	3 4	Overhead door springs...	14 6
Casement fasteners ...	2 3	Patent floor springs and oil	36 3
Cupboard locks	5 0		

FOUNDER AND SMITH

Fabricated steelwork of basis section including hoisting and fixing at various levels :		s. d.
Rolled steel joists	per cwt.	90 0
Compound girders	,,	97 0
Stanchions	,,	102 3
Compound stanchions	,,	108 0
In roofwork—trusses and purlins ... ... (Average prices, not for awkward work)	,,	122 0
Cleats, brackets, packing pieces, etc., in connections, including rivets and bolts	,,	147 6
Wrot iron framed cat ladders	,,	148 0 to 168 0

PLUMBER

	Per ft. run		
	3 in.	*4 in.*	*5 in.*
Cast iron rainwater goods : (Under 5 cwt. lots) :	s. d.	s. d.	s. d.
Half-round gutter jointed in red lead and bolted and fixed with iron brackets	3 3	3 11	4 9
Extra for stop ends ... ... each	2 5	3 0	3 11
do. angles or outlets ... ... ,,	5 10	6 2	7 3
O.G. gutter of ⅛ in. metal fixed as above	3 9	4 4	5 1
Extra for stop ends ... ... each	2 9	3 4	4 4
do. angles or outlets ... ... ,,	6 7	6 9	8 1
	2 in.	*3 in.*	*4 in.*
Rainwater pipe jointed in red lead and tow fixed to brickwork with pipe nails and distance pieces: ⅛ in. metal	4 6	5 1	6 7
Extra for shoes ... ... each	5 0	6 10	9 2
do. bends ... ... ,,	5 11	8 6	11 0
do. junctions ... ... ,,	8 1	11 6	15 0
Cast iron soil and waste pipes : (Under 5 cwt. lots) :	*2 in.*	*3 in.*	*4 in.*
Soil, waste or ventilating pipes with caulked joints fixed to brickwork with pipe nails and distances pieces : 13/64 in. metal	6 5	7 6	9 10
Extra for bends ... ... each	14 1	16 9	21 0
do. junctions ... ... ,,	17 5	24 3	30 5
do. oval access door to any fitting ,,	16 6	16 6	21 3
Extra cost for type 'E' holderbat fixing and cutting and pinning to brickwork ft. run	1 6	1 7	1 7½

	Soakers	Flats	Gutters, valleys, etc.	Flashings	Stepped Flashings
External leadwork: (Over 1 ton):	s. d.	s. d.	s. d.	s. d.	s. d.
Milled lead and labour in per cwt.	141 4	166 11	179 11	186 5	199 5
Labours, etc.: Double welt ... ... ft. run					1 0
Copper nailing: Open					7
Close					1 0
Soldered seam					6 7

	2 in. x 10 lb.	3 in. x 15 lb.	4 in. x 19 lb.
Lead pipes: (Over 1 ton):	s. d.	s. d.	s. d.
Soil, waste and ventilating pipes, fixed to walls with plain lead tacks and brass screws ... ... per ft.	10 11	14 4	18 9
Extra for: Lengths under 4 ft. ... ,,	3 0	3 6	4 6
Bends ... ... No.	12 6	23 9	24 10
Wiped soldered joints ... ... ,,	20 0	29 7	33 7
,, branch joints ... ... ,,	24 4	35 0	39 3

	Per ft. run					
	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Lead pipes including running joints:	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Main in trench ...	3 4	5 0	7 5	9 3	11 9	16 5
do. fixed with hooks	4 0	5 10	8 8	10 8	13 4	18 3
Service and do. ...	3 5	5 0	6 11	8 3	10 4	13 4
Waste and do. ...	2 8	3 11	5 7	6 7	8 4	10 11
Extra for lengths under 4 ft. ...	9	1 0	1 6	1 9	2 0	2 7
Soldered stop ends ... ... No.	2 6	3 0	3 9	4 6	5 2	6 8
do. joints to fittings ... ,,	6 6	9 2	11 0	13 4	16 3	19 9
do. branch joints... ... ,,	7 2	10 1	12 2	14 10	17 11	21 8
Brasswork: Union with red lead joint to iron and soldered joint to lead ... ... ,,	12 0	14 10	18 6	22 9	27 10	40 6
Stop-cock and soldered joints... ... ,,	21 0	30 8	43 7	70 0	89 6	167 5
Bib-cock do. ,,	18 6	24 9	—	—	—	—
Ball-valve do. ,,	18 0	30 4	43 5	71 7	89 6	—
Steel tubing: Galvanised tubing Class C laid in trench	2 4	2 6	2 10	4 1	5 6	6 6
do. Class B fixed to walls, etc. ...	2 7	3 0	3 4	4 5	6 2	7 1
Extra for bends No.	5 0	5 9	7 7	9 10	11 8	17 2
Tees ,,	5 8	6 9	8 2	10 10	12 10	18 8
Red lead joints ,,	3 6	3 9	4 1	4 7	5 1	5 7
Copper tubes and fittings: gauge	19	19	18	18	18	17
Tubes and fixing to walls	2 7	3 4	4 6	5 5	6 4	9 2
Extra for lengths under 4 ft. ...	7	9	11	1 0	1 3	1 6
Brass capillary type fittings: Couplings—copper to copper ...	3 8	4 4	6 9	8 9	11 2	15 3
Bends— do. ...	5 10	7 1	8 11	11 7	17 2	32 3
Tees— do. ...	8 7	9 11	14 2	19 2	26 3	36 4
Stop cocks	23 7	33 1	60 2	101 2	152 3	250 4
Tank connectors ...	4 9	5 4	8 1	10 2	14 3	18 4

PLASTERER

	s. d.
Expanded metal lathing ⅜ in. mesh 24 gauge ... ... Yd. sup. (not including hangers for suspended work)	8 6
Lime Plastering: Render, float and set ... ... ,,	9 11
Sirapite Plastering: Render in Portland Cement, Lime and Sand and set in Sirapite ... ... ,,	7 9
Sirapite Plastering: Render and set in Sirapite plaster to manufacturer's instructions ... ... ,,	8 0
Paristone Plastering: do. do. ... ... ,,	8 3
Carlite Plastering do. do. ... ... ,,	8 10
Portland Cement: Plain face trowelled smooth ... ,,	9 11
Keenes: Render in cement and lime and set in Keenes Yd. sup.	10 6
Extra for dubbing out ¼ in. thick 1/11, ½ in. thick 3/11 ⅜ in. Plasterboard and setting coat ... ,,	8 11
Narrow widths: Up to 3 in. wide add 300 per cent. Do. 3-6 in. do. 200 per cent. Do. 6-12 in., add 75 per cent.	
Labours: Arris 5½d. Fair edge 6½d. Quirk 10d.	
Plaster Moulded Cornices : 6 in. girth and under ... Ft. run	3 1
Over 6 in. girth, add 3½d. per in.	
Tyrolean Rendering on and including Portland Cement and Sand backing ... ... yd. sup.	12 8
Wall Tiling: 6 in. x 6 in. white glazed ¼ in. thick ... ,,	45 0
Extra for rounded angle or birdsbeak ... ... Ft. run	4
do. rounded edge tile ... ... ,,	5

GLAZIER

	Wood sashes with beads or putty
	s. d.
Clear sheet glass ordinary quality :	
18 oz.	1 5
24 oz.	1 7½
26 oz.	1 10½
32 oz.	2 3½
Obscured glass :	
⅛ in. Figured rolled White group 1	1 10½
,, ,, ,, group 2	2 2½
,, ,, Standard tints	2 6½
⅛ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and luminating group 3	2 4
¼ in. Wired Cast	2 7½
¼ in. Georgian Wired Cast	2 8
¼ in. Polished Plate Glass, G.G. Quality :	
In plates not exceeding 2 ft. sup.	6 8½
,, ,, ,, 5 ft. sup.	7 8½
,, ,, ,, 45 ft. sup.	9 8½
,, ,, ,, 100 ft. sup.	9 7½
Extra on all above :	
For glazing with screw beads ft. sup.	5½
(Excepting polished plate over 12 ft. super on which no extra is charged)	
For glazing with metal sashes with putty	1
Glazing bedded in washleather ... ... Ft. run	8½

PAINTER

	s. d.
Limewhiting : Prepare and two coats on brick ... Yd. sup.	1 2
Whitening : Prepare and two coats on plaster ... ,,	1 5
Washable distemper: Prepare and two coats on plaster ,,	1 11
Emulsion paints: Prepare and two coats on plaster ... ,,	3 1

Painting with oil colours :	Yd. super 1 coat	2 coats	3 coats
	s. d.	s. d.	s. d.
Prepare and paint on plaster	2 3	4 3	6 4
On Steel :			
Plain surfaces	1 10	3 7	5 5
Roof trusses...	2 4	4 7	6 11
Metal casements divided into squares ...	3 4	6 8	10 0
do. divided into large squares ...	2 7	5 0	7 6
Opening edges ... ... Each	8	1 3	1 10
Small pipe ... ... Yd. run	6	1 0	1 5
Rainwater pipe ... ... ,,	1 0	1 11	2 9
Gutter ... ... ,,	1 4	2 6	3 8

	Knot, prime and stop	*Add for each extra coat*
On Woodwork :	s. d.	s. d.
General surfaces ... ... Yd. sup.	2 10	2 3
On work not exceeding 3 in. girth ... Yd. run	4½	3½
Add to last for every additional 3 in. in girth	3½	2½
Sash squares on one side ... ... Doz.	5 6	4 6
Large ,, ,, ,, ... ,,	8 6	8 0
Opening edges ... ... No.	9	8

	s. d.
Oiling Hardwood : Two coats with linseed oil... ... Yd. sup.	1 4
Creosote : Two coats on woodwork ... ... ,,	1 7
Polishing—New Work :	
Staining and wax polishing hardwood ... ... Ft. sup.	1 1
Staining, bodying in and full french polishing on hardwood ... ... ,,	2 6
Old Work previously polished :	
Preparing old work and repolishing ... ... ,,	1 2
Stripping, preparing and repolishing ... ... ,,	3 1
Papering :	
Preparing, sizing and hanging lining paper ... ... per piece	10 7
do. do. Wallpaper, p.c. 10s. ... ... ,,	19 8

THE **INTERNATIONAL** GIRL KNOWS ABOUT HEAT AND SQUARE FEET...

International offer you **RADIATIATIATORS**—in any length you want

Heat and square feet make a perfect match with International Radiators. They come in seven different sizes and two heights. They can be connected in series to form any length or in parallel to make double or treble panels.

International Radiators are made from cold rolled sheet steel for long life. One piece construction provides a neat, rolled top finish without welding seams. Perfectly fitting blanking pieces make an attractive, unbroken line.

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TERMINAL HOUSE, GROSVENOR GARDENS, LONDON S.W.I

Gas- and oil-fired boilers (packaged and conventional) radiators, piping, pumps, controls and all central heating equipment.

Please send me details of .....

NAME..... FIRM.....

ADDRESS.....

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THE BUILDER CURRENT PRICES

THE information given on these pages has been specially compiled for *The Builder* and is copyright. It is the intention that the details given should indicate fair average prices of materials, not necessarily the highest or the lowest. The prices apply to large quantities of materials loaded at works, delivered at London Stations or at site in London Area as stated. Prices for smaller quantities ex merchant's warehouse will necessarily be higher so as to include the stocking and handling costs involved. It is recommended that the prices of materials should be confirmed by inquiry from suppliers and merchants.

AGGREGATES AND SAND

Delivered site in full lorry loads. Average of prices for Boroughs of Westminster, Paddington, Holborn and St. Pancras.

		£	s.	d.
Pit Ballast	per yd.	1	5	5
Pit Sand	,,	1	3	8
Washed Sand	,,	1	6	9
¼ in. Shingle	,,	1	4	3
¼ in. Broken Brick	,,	1	0	9
Pan Breeze	,,	1	5	0
Fine or Coarse Foamed Slag Aggregate (2 yds. of fine and 2.6 yds. of coarse per ton.)	per ton	3	8	0

CEMENT, etc.

Including non-returnable jute sacks or paper bags.

		£	s.	d.
Best British Portland Cement. Standard Specification delivered Charing Cross area.				
8-ton loads and upwards, site	per ton	5	16	0
Below 8 tons down to 4 tons, site	,,	6	8	0
Below 4 tons down to 2 tons, site	,,	6	12	0
Below 2 tons down to 1 ton, site	,,	6	14	0
Rapid-Hardening Cement in 8-ton loads and upwards to site	,,	6	6	6
Below 8 tons down to 4 tons, site	,,	6	18	6
Below 4 tons down to 2 tons, site	,,	7	2	6
Below 2 tons down to 1 ton, site	,,	7	4	0
Aquacrete Water Repellent Cement. 32s. 6d. per ton on ordinary cement prices.				
Sulphate Resisting Cement. 32s. 6d. per ton on ordinary cement prices.				
Red, Buff or Khaki Colocrete in 8-ton lots	,,	8	16	0
Other colours according to colour.				
In 4-ton lots from 313s. 3d. to 783s. 3d. per ton.				
White Portland Cement	,,	14	0	9
Under 1 ton	per cwt.		17	0
417 Cement (Ultra Rapid Hardening) in 8-ton lots and upwards	per ton	7	8	6
Super Cement (Waterproof), 32s. 6d. per ton above Portland Cement.				
Cullamix Tyrolean Finish, £11 13s.3d. to £14 8s.3d. (1-ton loads and upwards).				
Ciment Fondu and Lightning Brands High Aluminous cement, 6-ton lots and up	,,	15	14	6
Stourbridge Fireclay, 6-ton loads at Railway Depot, London	,,	6	19	0
Stourbridge Fireclay, 6-ton loads (London sites)	,,	7	12	0
Moler Mortar Powder for Flue Bricks (London sites)	per cwt.	1	6	0

BRICKS

Full Loads		£	s.	d.
First Hard Stocks	per 1,000	16	19	6
Second Hard Stocks	,,	14	18	6
Mild Stocks (Kiln Burnt)	,,	11	5	0
Mild Stocks	,,	11	0	0
All loaded free into lorry at the works. The question of haulage is still very difficult and prices must be obtained from job to job.				
2½ in. Nominal Fletton Bricks to sites in W.C. district :				
Commons	,,	6	12	0
Cellular Commons	,,	6	12	0
Keyed do.	,,	6	14	0
Rustics	,,	8	12	0
Cellular Rustics	,,	8	12	0
Single Bullnose Commons	,,	8	14	6
Sandfaced	,,	9	12	0
Tuscans	,,	10	7	0
Saxons	,,	10	15	0
Golden Buffs	,,	11	2	0
Dapple Light Facings	,,	11	9	6
Heather Facings	,,	11	5	0
Best Blue Pressed Staffs (London sites)	,,	34	0	6
do. Bullnose (London sites)	,,	34	19	6
Blue Wire Cuts (London sites)	,,	29	19	6
Midhurst Lime Bricks (London sites)	,,	11	13	0
Uxbridge Whites (London sites)	,,	12	3	6
Special Purpose Sandlime Bricks (London sites)	,,	9	2	0
Best Stourbridge Fire Bricks :				
2½ in. (London stations)	,,	32	14	0
2½ in. (London sites)	,,	33	2	9
3 in. (London stations)	per 1,000	39	4	6
3 in. (London sites)	,,	39	15	0
2½ in. Moler Flue Bricks (London sites)	,,	31	0	0
2½ in. Machine-made Sandfaced Red Facings (London sites)	,,	18	19	0
2½ in. Machine-made Multi Red Facings (London sites)	,,	19	4	0
2½ in. Hand-made Sandfaced Red Facings (London sites)	,,	20	17	6
2½ in. Hand-made Sandfaced Multi-Colour Facings (London sites)	,,	20	17	6
Hand-made Sandfaced Cherry Red Facings, Berkshire district (London sites)	,,	21	5	0
Hand-made Sandfaced Multi-Colour Facings, Berkshire district (London sites)	,,	21	5	0
Kubber Bricks for gauged arches (London sites)	,,	52	5	0
2½ in. Surrey Clamp Burnt Multi Stock Facings (London sites)	,,	16	15	0
2½ in. Surrey Kiln Burnt Multi Stock Facings (London sites)	,,	18	7	6
Glazed Bricks (London sites), White, Ivory, Brown:				
Stretchers	,,	64	0	0
Headers	,,	63	0	0
Quoins, Bullnose and 4½ in. Flats	,,	80	0	0
Double Stretchers	,,	85	0	0
Double Headers	,,	77	10	0
One side and two ends	,,	87	0	0
Two sides and one end	,,	89	10	0
Splays and Squints	,,	83	0	0
Cream and Buff, £3 extra over White. Other colours, hard glaze, £8 10s. 0d. extra over White. All above prices plus 47½% for Best quality and plus 47½% less 10% for Second quality.				

PARTITION SLABS, etc.

Delivered Central London Area. (W.C. District).

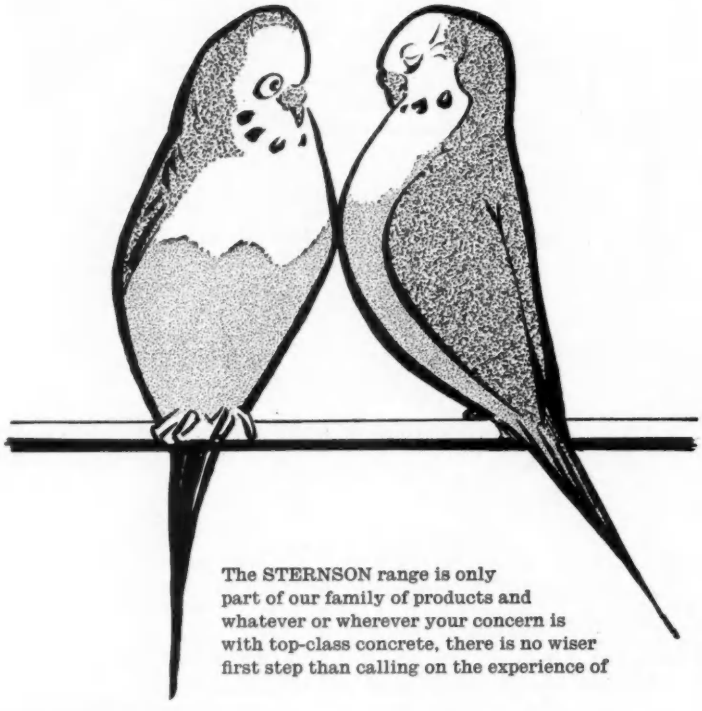
Hollow Clay Partition Blocks (Keyed) Minimum lorry loads		£	s.	d.
*2½ in. 140 yds.	per yd. sup.		4	7
Building Blocks (Keyed)				
*3 in. (6 cavity) 110 yds.	,,		5	9
*4 in. (6 cavity) 90 yds.	,,		7	3
6 in. (8¾ in. × 5⅝ in.) 1,250 blocks	per 1,000	28	9	0
* Half blocks at no extra charge.				
Clinker Concrete				
2 in. 100 yds.	per yd. sup.		4	0
2½ in. 85 yds.	,,		4	7
3 in. 75 yds.	,,		5	8
4 in. 55 yds.	,,		7	0
Cranham Terra Cotta				
2 in.	,,		7	5
2½ in.	,,		8	4
3 in. Load bearing quality	,,		9	6
4 in. do. do	,,		11	6
Moler Partition Blocks				
2 in. 150 yds.	,,		12	9
2½ in. 120 yds.	,,		13	9
3 in. 100 yds.	,,		14	9
4 in. 90 yds.	,,		17	0
Lightweight Concrete Building and Partition blocks of Various Sources of Manufacture				
2 in. 100 yds.	per yd. sup.		5	4
2½ in. 80 yds.	,,		6	5
3 in. 65 yds.	,,		7	5
4 in. 50 yds.	,,		9	4
4½ in. 44 yds.	,,		10	2
6 in. 33 yds.	,,		14	5
Thermalite-Ytong Partition Blocks				
2½ in. 144 yds.	,,		7	0
Thermalite-Ytong Load-Bearing Insulating Blocks				
3 in. 120 yds.	per yd. sup.		8	5
4 in. 90 yds.	,,		11	0
5 in. 72 yds.	,,		13	9
6 in. 60 yds.	,,		16	6
8½ in. 42 yds.	,,	1	3	8
Floor Blocks and Filler Tiles				
Floor Blocks 12 in. × 12 in. delivered in full lorry-loads :				
3 in.	per 1,000	35	14	0
4 in.	,,	38	9	0
5 in.	,,	46	1	0
6 in.	,,	52	12	0
7 in.	,,	64	12	0
8 in.	,,	75	9	0
9 in.	,,	83	2	0
10 in.	,,	92	0	0
Filler Tiles in multiples of 10 tiles per 1,000 multiples :				
12 in. × 3 in. × ⅝ in.	,,	43	13	0
12 in. × 4 in. × ⅝ in.	,,	75	7	0
10 in. × 5 in. × ⅝ in.	,,	75	7	0

A marriage has been arranged

For better or worse, budgerigars seldom choose their own partners—yet seem to get by remarkably happily with those they are given.

In Civil Engineering, the question of marrying materials often arises. Here, where the choice is open, we can only record that our metallic bonder, STERNSON 610, has featured in many a happy wedding—and has proved itself, without question, a bond that lasts.

It has been widely used, for example, in the laying down of factory floors,—to provide the vital, enduring link between the wearing surface and the main slab beneath.



The STERNSON range is only part of our family of products and whatever or wherever your concern is with top-class concrete, there is no wiser first step than calling on the experience of

SBD PRODUCTS

STUART B. DICKENS LTD.

Manor Way, Boreham Wood, Hertfordshire

Telephone: Elstree 2211

STONEWARE DRAIN PIPES, etc.

Glazed Stoneware Standard List (November, 1956).

		4 in.	6 in.	9 in.
Pipes, 2 ft. lengths ... ... per ft.		1/8	2/6	4/6
Bends ... ... each		5/–	7/6	20/3
Junctions ... ... „		8/4	12/6	27/–
Gullies with 4 in. outlets ... ... „		12/6	13/9	22/6

The following are the percentages to be added to the Standard List (November, 1956) prices delivered London Area.
Delivered ex Merchants Wharf or Depot.

	Over 2 tons NET	Over 100 pieces Under 2 tons	Under 100 pieces Under 2 tons
Best Quality ...	NET	+22½%	+27½%
BSS Best Quality...	+10 % NET	+10 %+22½%	+10 %+27½%
Tested Quality ...	+37½% NET	+37½%+22½%	+37½%+27½%
BSS Tested Quality	+47½% NET	+47½%+22½%	+47½%+27½%

	£	s.	d.
3 in. Land Drain Pipes (in 12 in. lengths) ... ... per 1,000	12	10	6
4 in. do. do. ... ... „	16	16	0
6 in. do. do. ... ... „	34	10	0
9 in. do. do. ... ... „	64	19	0

DAMP COURSE

	£	s.	d.
Hessian base bitumen 7 lb. per yd. sup. in 24 ft. rolls cut to wall widths in lots of £6 value and over delivered London area ... ... per yd. sup.		3	5
Asbestos base do. 7 lb. per yd. sup. do. do. „		5	2
Lead lined bitumen do. 9½ lb. per yd. sup. do. do. „		12	2
18 in. × 9 in. British damp course slates ... ... per 1,000	43	8	11
14 in. × 9 in. do. do. ... ... „	32	8	2
9 in. × 9 in. do. do. ... ... „	18	18	9
18 in. × 4½ in. do. do. ... ... „	19	19	9
14 in. × 4½ in. do. do. ... ... „	15	18	3
9 in. × 4½ in. do. do. ... ... „	10	14	3

STONE

	£	s.	d.
Bath Stone			
Monks Park ... ... per ft. cube		10	3
St. Aldhelm Box Ground ... ... „		11	6
Delivered in railway trucks at South Lambeth B.R. Western Region.			
Doulting Stone Random Blocks. Delivered London area ... ... „		10	10
Beer Stone. Delivered London area ... ... „		10	6
Portland Stone—			
Brown Whitbed in random blocks, 20 ft. average delivered in railway trucks at Nine Elms, B.R. Southern Region ... ... „		9	10
Yorkshire Stone—Blue Robin Hood Quality. Delivered to site London in 6-ton lots.			
9 in. × 3 in. Rubbed, weathered, throated and stolled cills ... ... per ft. cube	4	5	10
12 in. × 6 in. do. do. do. ... ... „	3	1	2
12 in. × 3 in. Plain coping, twice throated ... ... „	2	7	6
12 in × 3 in. Weathered and twice throated coping „	3	3	3
14 in. × 6 in. do. do. do. ... ... „	2	17	0
4½ in. × 9 in. Plinth rubbed on top and face ... „	2	11	0
3 in. sawn two sides Slabs, random sizes ... ... per ft. sup.		9	1
Templates and Cover Stones, 3 in., 4 in. and 6 in. thick, edges coped for rendered brickwork ... per ft. cube	1	11	3
do. do. fair one edge for fair faced brickwork „	1	17	0
Hard York—			
12 in. × 2 in. Square Steps, rubbed on top and edge ... ... per ft. run		11	0
14 in. × 3 in. Round-nosed Steps, rubbed on top and front ... ... per ft. cube	2	18	3
12 in. × 6 in. Plain Steps, rubbed top and front „	2	11	0
2 in. Rubbed and Jointed Paving, given sizes ... per ft. sup.		10	3
2 in. Sawn Paving, edges squared, in random sizes ... ... per yd. sup.	3	12	0

TILES AND PANTILES

Delivered London area by road in 6 tons or over per 1,000.

	£	s.	d.
Machine-made Pantiles and French pattern Tiles from Lincolnshire district	35	16	6
Hand-made Pantiles Berkshire district	64	10	0
Hand-made Double Roman Bridgwater district	78	2	9
Hand-made 10½ × 6½ tiles Berkshire district	18	0	0
Machine-made 10½ × 6½ Staffordshire district	17	0	0
Hand-made Hip and Valley tiles per doz.	1	13	0
Machine-made Hip and Valley tiles do.	1	12	0
Concrete tiles 10½ × 6½	8	10	0
do. Interlocking (49S)	19	16	6

NOTE.—Breakage in transit, purchasers' responsibility.

SLATES

First-quality Slates from Penrhyn or Portmadoc, carriage paid in full truck loads to London Rate station. Per 1,000 actual.

	£	s.	d.
24 × 12	160	4	0
22 × 12	126	15	0
22 × 11	114	15	0
20 × 12	107	5	0
20 × 10	105	0	0
18 × 10	71	5	0
18 × 9	62	14	0
16 × 10	54	15	0
16 × 8	42	18	0

NOTE.—Breakage in transit, purchasers' responsibility.

TIMBER

	Ex Wharf	per	£	s.	d.
Softwood					
Joinery quality	do.	standard	£115 to £140		
Carcassing quality	do.	„	£94 — £98		
1 in. Tongued and Grooved Flooring	do.	„	£112	0	0
Hardwood			£	s.	d.
Mahogany—African S.E.	do.	per ft. cube	1	17	6
do. Honduras S.E.	do.	„	3	5	0
Oak European S.E.	do.	„	2	10	0
do. Japanese S.E.	do.	„	3	0	0
do. English Logs sawn ...	do.	„	2	0	0
Teak 8 in. average S.E. ...	do.	„	3	17	6
Walnut African Logs sawn ...	do.	„	1	2	6
Plywood		per			
6 mm. (¼ in.) Birch Plywood B/BB		100 sq. ft.	4	3	6
6 mm. Israeli Gaboon do. B/BB exterior grade WBP (AX100)		„	4	5	3
18 mm. Birch Blockboard		„	9	7	0
¾ in. Douglas Fir Plywood 96 in. × 48 in. Exterior grade WPB (AX100) solid two sides		„	9	3	0

DOORS (in Lots I-II)

	£	s.	d.
Delivered London area.			
1¼ in. 4 Horizontal Panel. Pattern 4 in. deal			
2 ft. 0 in. × 6 ft. 6 in. ... ... each	1	16	0
2 ft. 3 in. × 6 ft. 6 in. ... ... „	1	17	6
2 ft. 6 in. × 6 ft. 6 in. ... ... „	1	18	6
2 ft. 9 in. × 6 ft. 6 in. ... ... „	2	0	6
2 in. do. but top panel open. Pattern 4 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... „	2	9	0
2 ft. 9 in. × 6 ft. 6 in. ... ... „	2	11	6
2 in. 2 Panel top panel open. Pattern 2 × G in deal			
2 ft. 6 in. × 6 ft. 6 in. ... ... „	2	3	0
2 ft. 9 in. × 6 ft. 6 in. ... ... „	2	5	0
1¼ in. Plywood Faced Flush Doors to BS459, Part 2A			
2 ft. 0 in. × 6 ft. 0 in. ... ... „	1	12	3
2 ft. 0 in. × 6 ft. 6 in. ... ... „	1	12	3
2 ft. 3 in. × 6 ft. 6 in. ... ... „	1	13	9
2 ft. 6 in. × 6 ft. 6 in. ... ... „	1	15	3
2 ft. 9 in. × 6 ft. 6 in. ... ... „	1	18	0
1¼ in. Hardboard Faced Flush Doors			
2 ft. 0 in. × 6 ft. 0 in. ... ... „	1	5	6
2 ft. 0 in. × 6 ft. 6 in. ... ... „	1	6	0
2 ft. 3 in. × 6 ft. 6 in. ... ... „	1	6	6
2 ft. 6 in. × 6 ft. 6 in. ... ... „	1	8	6
2 ft. 9 in. × 6 ft. 6 in. ... ... „	1	9	6

SUNDRIES

	£	s.	d.
Delivered London area.			
1 in. Wood Wool Slabs 6 ft. 0 in. × 2 ft. 0 in. in quantities of 1 ton (89 yds. to 1 ton) ... ... per yd.		6	2
1½ in. do. (67 yds. to 1 ton) ... ... „		8	0
2 in. do. (52 yds. to 1 ton) ... ... „		9	9½
2½ in. do. (45 yds. to 1 ton) ... ... „		11	3
3 in. do. (39 yds. to 1 ton) ... ... „		12	7½
¼ in. imported or home produced insulation Board, quantities over 5,000 sq. ft. ... ... per 100 sq. ft.	2	2	6
⅛ in. Hardboard do. ... ... „	1	17	6
1/16 in. do. do. ... ... „	2	4	6
2 in. Compressed Straw Slabs, roofing quality. 6 ft., 8 ft., 9 ft., 10 ft., and 12 ft. × 4 ft.			
50–100 yds. ... ... per yd. sup		11	4
101–250 yds. ... ... „		10	10
251–750 yds. ... ... „		10	1
Over 750 yds. ... ... „		9	4
2 in. do. for partitions 4d. per yd. cheaper.			
1/16 in. Asbestos Flat Building Sheets... ... ... „		4	3½
⅛ in. do. do. do. ... ... „		6	0
Roofing Felt 1-ply ... ... „		1	9
do. 2-ply ... ... „		2	2½
Best Scotch Glue in slabs ... ... per ½ cwt.	5	3	9
do. pearl ... ... „	5	3	9
Croid Glue ... ... 28 lb.	2	6	0
Impact Adhesive ... ... per gall.	2	12	0
Cut Nails 3 in. (1-ton lots) ... ... per ton	84	10	0
do. 4 in. and up (1-ton lots) ... ... „	81	0	0
Wire Nails 3 in. (4-cwt. lots) ... ... per cwt.	4	2	1
do. 4 in. and up (4-cwt. lots) ... ... „	3	19	3

METALS

STEEL JOIST, ETC.

	£	s.	d.
Basis Joists—			
6 in. × 5 in., 8 in. × 5 in., 8 in. × 6 in., 10 in. × 6 in., 12 in. × 6 in., plain cut to lengths delivered London area ... ... per ton	47	15	0
Extra for sizes			
3 in. × 1½ in. 4 in. × 1¼ in. ... ... „	3	10	0
3 in. × 3 in. ... ... „	2	10	0
4 in. × 3 in. ... ... „	2	5	0
10 in. × 4½ in. ... ... „	1	10	0
5 in. × 2½ in. 5 in. × 3 in. ... ... „	1	15	0
4½ in. × 1½ in. ... ... „	3	5	0
5 in. × 4½ in. 7 in. × 3½ in. 13 in. × 5 in. ... „		15	0
6 in. × 3 in. 24 in. × 7½ in. ... ... „	2	0	0
6 in. × 4½ in. 7 in. × 4 in. 8 in. × 4 in. } „	1	5	0
9 in. × 4 in. 10 in. × 5 in. ... ... }			
12 in. × 5 in. 22 in. × 7 in. ... ... „	1	0	0

METALS—*continued*

		£	s.	d.
9 in. × 7 in. 10 in. × 8 in. 12 in. × 8 in. / 14 in. × 5½ in. 14 in. × 6 in. 14 in. × 8 in. / 15 in. × 5 in. 15 in. × 6 in. 16 in. × 6 in.	per ton		10	0
16 in. × 8 in. 18 in. × 6 in. 18 in. × 7 in. / 18 in. × 8 in. 20 in. × 6½ in. 20 in. × 7½ in.	,,		10	0
Steel angles average price	,,	48	15	0
Steel tees average price	,,	49	15	0
Fabricated work delivered London—				
R.S. Joists cut and fitted...	,,	67	19	0
Compound girders	,,	72	14	3
Stanchions	,,	78	9	9
Compound stanchions	,,	83	4	3
In Roof Work—Trusses and Purlins	,,	93	19	6
Average prices not for awkward work.				
Angle cleats and ⅜ in., ½ in. and ⅝ in. bolts average price London area	per cwt.	5	10	0
Above prices joists etc. increased by 1·1%.				

Ferro-Concrete Bars and Fabric

		£	s.	d.
Mild Steel Ferro-Concrete Bars British manufacture to BSS 785 ex. Mills. 1 in. diameter and upwards delivered nearest London station ...	per ton	40	10	0
do. do. ex. London Stock do. delivered London site	,,	49	10	0
Extras—				
¼ in. diam....	per ton extra	8	12	6
⅜ in. do.	,,	6	12	6
½ in. do.	,,	4	12	6
⅝ in. do.	,,	3	2	6
¾ in. do.	,,	1	10	0
⅞ in. and 1 in. diam.	,,		15	0
Above prices mild steel bars increased by 1·1%.				
Steel wire mesh reinforcing fabric to BSS 1221A.				
Ref. No. 106 ... ... 7.88 lbs.	per sq. yd.		5	2½
,, ,, 109 ... ... 4.71 ,, ...	,,		3	0½
,, ,, 113 ... ... 1.83 ,, ...	,,		1	8½
,, ,, 122 ... ... 7.32 ,, ...	,,		4	10½
,, ,, 125 ... ... 4.32 ,, ...	,,		2	10½

Mild Steel Tubes

Tubes to BSS 1387. Fittings BSS 1740.

Basic List Prices

		¼ in.	⅜ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Tubes	per ft.	9¾	10	1/–	1/2½	1/9	2/3	2/8	3/9
Bends	each	1/7	1/9	2/–	2/6	3/8	5/5	6/2	10/7
Elbows, square	,,	1/8	1/10	2/2	2/6	3/–	4/4	5/2	8/6
do. round	,,	1/10	2/–	2/4	2/10	3/4	4/8	5/8	9/4
Tees	,,	2/–	2/2	2/6	3/2	3/8	5/–	6/2	10/2
Crosses... ...	,,	4/4	4/8	5/6	6/6	8/2	11/–	13/2	21/–
Sockets, Plain	,,	6	6	8	10	1/–	1/4	1/9	2/6
do. Diminished	,,	8	10	1/–	1/2	1/6	2/–	2/8	4/–
Backnuts ...	,,	4	4	6	7	10	1/–	1/4	2/2

Malleable Fittings

		¼ in.	⅜ in.	½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Elbows, round	each	8½	8½	9½	1/2½	1/8½	2/7½	3/6	5/–
Tees	,,	9½	9½	1/–	1/4½	2/–	2/9½	4/–	5/6
Crosses... ...	,,	1/2½	1/2½	1/4½	2/–	2/9½	3/7½	5/2½	7/2½
Sockets... ...	,,	5½	5½	7	9½	1/–	1/7½	2/2½	3/1½
Backnuts ...	,,	3	3	3½	4½	5½	7½	10½	1/5½

Discounts from List prices as follows :—

Galvanised Tube—

	Under 1 ton	Over 1 ton
Light	−37 %	−38½%
Medium	−33 %	−34½%
Heavy	−25½%	−27 %

W.I. Fittings

Light	−24½%
Heavy	−20½%

Malleable Fittings

Malleable List −14%+40%

Black—

Light	−47 %	−48½%
Medium	−43 %	−44½%
Heavy	−35½%	−37 %

Malleable List −14%

C.I. Half-Round Gutters

Delivered London per yd. in 6 ft. lengths.

	Gutters	Nozzles	Stop Ends
3 in.	4/4½	3/10	1/1
3½ in.	4/9	4/2	1/1
4 in.	6/1½	4/9	1/8
4½ in.	6/9	5/4	2/–
5 in.	7/6	5/9	2/4

C.I.O.G. Gutters

Per yd. in 6 ft. lengths :	Gutters	Nozzles	Stop Ends
3 in.	5/7½	5/1	1/4
3½ in.	6/3½	5/1	1/8
4 in.	6/11½	5/4	2/–
4½ in.	7/6	6/1	2/4
5 in.	8/2½	7/–	2/8

C.I. Rain-Water Pipes

	Pipes	Bends	Branches
2 in.	9/4	4/9	6/10
2½ in.	9/4	5/4	9/2
3 in.	10/6	6/8	9/11
3½ in.	11/10	7/10	11/11
4 in.	13/9½	9/6	14/2

L.C.C. Coated Soil Pipes

2 in.	10/7	8/2	9/11
2½ in.	11/2	9/1	12/4
3 in.	12/6½	9/11	14/8
3½ in.	14/–½	12/4	17/1
4 in.	15/11½	13/10	20/3

Above prices for gutters, rain-water and soil pipes for under 5-cwt. lots only. Lots over 5 cwt. see List No. 3300, dated February 1, 1955, plus 32½% and tonnage allowance. 4-ton lots 5%, 2-ton lots 2½%.

L.C.C. Coated Drain Pipes

		£	s.	d.
4 in. diameter in 9 ft. lengths	per yd. run	1	11	1
6 in. do. do.	,,	2	5	6
4 in. diameter bends	each	1	0	6
6 in. do. do.	,,	2	14	9
4 in. diameter branches	,,	1	16	6
6 in. do. do.	,,	4	7	6
Above prices for any quantity but under 5 cwt. carriage extra.				

Pitch Fibre Drain Pipes

		£	s.	d.
2 in. diameter in 5 ft., 5 ft. 6 in. or 8 ft. lengths including couplings	per ft. run		1	6½
3 in. do.	,,		1	10½
4 in. do.	,,		2	6
5 in. do.	,,		4	1½
6 in. do.	,,		5	0½
4 in. diameter short radius ¼ bends	each		17	9
4 in. do. do. ⅛ bends	,,		12	11
2 in. diameter 6 ft. radius bends (5 ft. lengths)	,,		17	0
3 in. do. do. do.	,,		19	8
4 in. do. do. do.	,,	1	7	4
5 in. do. do. do.	,,	2	4	0
6 in. do. do. do.	,,	2	14	6

Above prices for loads of £60 and over.
Loads £25 to £59 19s. 11d. Plus 10%
Loads under £25 ... Plus 15%

Asbestos Rain-Water Pipes and Fittings

All less 17½% discount.		2 in.	2½ in.	3 in.	4 in.
Pipes, 6 ft. lengths ...	per yd.	4/7	4/10½	5/11	7/10
Shoes	each	3/–	3/3	3/10	5/2
Single Branches	,,	4/8	5/6	6/7	9/2
Bends, squares or obtuse ...	,,	3/3	3/7	4/8	6/7
Swan Necks, 4½ in. proj....	,,	3/7	4/8	5/2	7/3
do. 6 in. do. ...	,,	3/10	5/2	5/10	7/10

Asbestos O.G. Gutters and Fittings

		4 in.	4½ in.	5 in.	6 in.
Gutters, 6 ft. lengths ...	per yd.	4/4	4/9½	5/9	6/10½
Drop ends	each	3/6	4/–	4/9	5/5
Stop ends	,,	1/1	1/2	1/3	1/5
Angles	,,	3/7	4/1	5/–	5/10
Nozzles	,,	3/6	4/–	4/9	5/–
Union Clips	,,	1/9	2/1	2/6	2/11

Asbestos Half-Round Gutters and Fittings

	per	3 in.	4 in.	4½ in.	5 in.	6 in.
Gutters, 6 ft. lengths	yd.	3/0½	3/7½	3/8½	4/4½	6/1
Drop ends	each	2/6	3/–	3/3	3/7	5/2
Stop ends	,,	1/–	1/1	1/2	1/3	1/5
Angles	,,	2/10	3/3	3/7	3/10	5/2
Nozzles	,,	2/6	3/–	3/3	3/7	5/2
Union Clips	,,	1/3	1/4	1/5	1/7	2/5

	Per ton basis in London £	s.	d.
Iron—Staffordshire Crown Merchant Quality	52	17	6
Mild Steel Bars	47	18	0
Mild Steel Hoops	49	10	0

	Ex Merchant's Stock per ton Two-ton lots £	s.	d.
Soft Sheets C.R. and C.A.—			
20 gauge	63	0	0
24 gauge	65	10	6
26 gauge	68	11	0
Galvanised Corrugated Sheets, 6-ft. to 9-ft.—			
20 gauge	70	18	0
24 gauge	74	9	0
26 gauge	79	15	0
Galvanised Flat Sheets C.R. and C.A.—			
20 gauge	72	8	6
24 gauge	75	19	0
26 gauge	81	5	0

ALUMINIUM AND ALUMINIUM ALLOYS

(Base Prices)		£	s.	d.
Sheet BS 1740 S1C 18 SWG (36 in. wide)... ...	per lb.		3	0½
Sheet BS 1470 NS3 Utility 18 SWG (36 in. wide)	,,		2	11½
Coiled strip BS 1470 S1C 18 SWG (24 in. wide)	,,		2	11½
Coiled strip BS 1470 NS3 Utility 18 SWG (24 in. wide)...	,,		2	11
Coiled strip high purity, 22 SWG (12 in. wide)	,,		3	2
Corrugated sheet BS 1470 NS3 Circular Profile 8 ft. × 32 in. × 20 SWG	per sheet	1	14	1
Corrugated sheet BS 1470 NS3 Industrial Profile 8 ft. × 31½ in. × 20 SWG	,,	1	19	10
Corrugated sheet BS 1470 NS3 Mansard Profile 8 ft. × 31½ in. × 20 SWG	,,	1	13	1
Extruded section BS 1476 E1C simple moulding	per lb.		2	10½
Extruded section BS 1476 E1C 1 in. diam. round	,,		2	8
Extruded section BS 1476 HE19WP simple angle	,,		3	2
Extruded section BS 1476 HE19WP 1 in. diam. round	,,		3	1
Tubing BS 1471 T1C 1½ in. O/D × 20 SWG ...	,,		4	8
Tubing BS 1471 HT19WP 1½ in. O/D × 20 SWG	,,		6	3

PLUMBERS' BRASS WORK, etc.

Delivered in London area.

All per dozen	B.S.S. ½ in.	¾ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown bib cocks Crutch head for iron...	87/–	128/–	—	—	—	—
Toilet bib cocks for iron ...	109/–	158/5	—	—	—	—

PLUMBERS' BRASS WORK, etc.—*continued*

All per dozen	¼ in.	⅜ in.	1 in.	1¼ in.	1½ in.	2 in.
Screwdown stopcocks for iron	66/-	95/9	188/-	363/-	522/6	917/6
do. with two unions for lead	89/-	132/-	234/4	472/-	623/6	1,389/6
Double nut boiler screws ...	18/8	26/5	47/6	48/6	67/-	93/6
Heavy Croydon ball valves	77/-	193/6	312/5	568/8	734/10	—
Plumbers' union brass lead to iron	19/6	23/6	38/6	52/10	70/6	165/-
	1¼ in.	1½ in.	2 in.	3 in.	3½ in.	4 in.
Caps and Screws	33/-	40/8	59/6	92/5	118/10	155/3
Brass Sleeves	—	31/11	31/11	56/2	74/10	91/5
		1½×6 lb.	1½×6 lb.	2×7 lb.		3×7 lb.
Lead P. trap with brass cleaning screws		68/6	85/6	137/-		233/9
Lead S. trap do. do.		82/9	102/9	168/3		302/3

Solder :			s.	d.
Plumbers' ...	1 cwt. lots	320/-	14 lb. lots per lb.	3	7
Tinmen's	" "	404/-	" " "	4	5
Blow pipe ...	" "	407/-	" " "	4	6

Copper Tubes and Sheets

Copper tubes BSS 659/1944 on the basic price of 27⅛d. per lb. plus gauge and manufacturing extras as follows. Minimum quantities, 10 cwt.

	Extra d.	Total per lb. d.	Approx. per ft. d.
⅛ in. × 19 gauge	16½	43⅝	11¾
¼ in. × 19 "	14⅝	41¾	16½
1 in. × 18 "	12⅞	40¼	25
1¼ in. × 18 "	12¼	39⅝	30
1½ in. × 18 "	12¼	39⅝	36
2 in. × 17 "	13⅜	41½	57¾

Small Quantity extras :

10 cwts. to 5 cwts.	plus ½d. per lb.
5 cwts. to 2 cwts.	" 1d. "
2 cwts. to 1 cwt.	" 2d. "

	£	s.	d.
Rolled Copper sheets up to 48 in. wide, basic price plus gauge and manufacturing extras	267	0	0

Zinc

		£	s.	d.
Sheet Zinc, 10 gauge (25 SWG),	5 cwt. lots upwards per cwt.	8	6	6
" " 12 gauge (23 SWG),	" " " "	8	4	0
" " 14 gauge (21 SWG),	" " " "	8	2	9

Brass Tube

		s.	d.
Brass tubes, basic price, plus gauge and manufacturing extras	per lb.	1	9⅞

LEAD SHEET AND PIPES

Basis selling price to one address in London or Home Counties :

		£	s	d.
Lead Sheet, English, 3½ lb. substance and upwards	per ton	104	15	0
" Water Pipe, in coils	"	107	0	0
Lead Soil Pipe, 10 ft. or over 2 in. to 4 in. in dia.	"	108	10	0
" " " over 4 in. dia.	"	110	10	0
" Gas or Untinned Compo pipe...	"	108	10	0

5 cwt. lots and over less 6d. per cwt. off basic prices.

Extras over Basis for quantities under 5 cwt. :

3 cwt. and under 5 cwt.	per cwt.	4	0
1 cwt. do. 3 cwt.	"	6	0

Smaller quantities than 1 cwt. priced specially.

Supplying sheet lead and lead pipes to less than basis weights and cutting to sizes less than basis charged extra according to current trade schedule.

Allowance for Old Lead, collected, £53 0s. 0d. per ton weighed at buyer's works.

PLASTER, etc.

		£	s.	d.
Coarse Pink in 1-ton loads and over delivered on site	per ton	8	11	3
do. White do. do.	"	9	0	9
Sirapite Coarse BSS 1191 Class C	do.	9	2	9
do. Fine do. do.	"	9	10	6
do. Browning BSS 1191 Class B	do.	9	2	9
do. Board Finish do.	do.	9	2	9
Blue Lias Lime, in 6-ton loads	"	6	17	6
Hydrated Lime (Grey) in 6-ton loads	"	6	2	0
do. (White) do.	"	6	12	0
Lump Lime (Grey) do.	"	5	19	0
do. (White) do.	"	6	6	6
White Keen's or Parian Cement, in 1-ton loads ...	"	12	7	6
Pink Keen's or Parian Cement, in 1-ton loads ...	"	12	2	3
Granite Chips, in 6-ton loads	"	2	6	9
Hair	per cwt.	4	17	6
Gypsum Plaster Lath or Base Board, ⅜ in. thick, 600 yds. and over in one delivery. Delivered site	per yd.	2	2½	
1,200 yds.	"	2	1½	
do. Insulating do. ½ in. thick, 600 yds. and over in one delivery. Delivered site	"	2	8	
1,200 yds.	"	2	7	
Gypsum Plaster Wall Boards, 3 and 4 ft. wide 6 to 12 ft., ½ in. thick, 600 yds. and over in one delivery. Delivered site	"	2	5½	
1,200 yds.	"	2	4½	
do. Insulating do. ½ in. thick, 600 yds. and over in one delivery. Delivered site	"	2	11	
1,200 yds.	"	2	10	

PAINTS AND DISTEMPER

Delivered London area.		£	s.	d.
Ceiling Distemper	per cwt.	1	7	6
Washable Distemper	"	5	18	0
Gloss Paint	per gal.	2	18	0
Super Snowcem cement paint (in 1 cwt. drums) ...	per cwt.	5	0	0

Lead Products and Oils

		£	s.	d.
Ground White Lead, in 1 cwt. kegs	per cwt.	8	7	6
Genuine White Lead Paint, 1-19 gal. lots in 1 gal. tins	per gal.	3	6	6
Genuine Red Lead, Dry, (1 cwt. lots)	per cwt.	6	17	0
Genuine Linseed Oil Putty, 1 cwt. keg	"	2	13	6
Size XD quality 28 lb.	per tin		9	0
Raw Linseed Oil (5 gal.) drums extra	per gal.		16	9
Boiled Linseed Oil (5 gal.) do.	"		17	8

Sundries

Turpentine substitute (5 gal.) drums extra ...	"	5	4½
do. do. (40 gal.) do.	"	4	8⅜
Solignum, Brown (5 gal. cans) Exterior	"	10	0
Creosote (40 gal. barrels)	"	2	3
Paste Powder (1 lb. packets)	per lb.	2	4
White Lining Paper	per piece	1	4

VARNISHES, etc.

Delivered London area.		£	s.	d.
Oak Varnish, Outside or Inside	per gal.	2	0	0
Oak, Pale Copal do. do.	"	2	0	0
Hard Drying Oak for Inside	"	2	5	0
Crystal Paper Varnish do.	"	2	8	0
Eggshell Flat Varnish do.	"	2	2	0
Finest Carriage Varnish	"	2	7	0
Front Door Varnish	"	2	4	0
Japan Gold Size	"	1	12	0
Black Japan	"	1	16	0
Brunswick Black	"	1	12	0
Berlin Black	"	1	10	0
Terebene	"	1	12	0
Knotting (1 gal. bottles free)	"	1	15	0
French and Brush Polish (do.)...	"	1	15	0

GLASS

Delivered London area.		s.	d.
18 oz. Sheet Glass Ordinary Glazing Quality— Cut Sizes...	per ft. sup.		10
24 oz. do. do. do. do.	"	1	0½
26 oz. do. do. do. do.	"	1	3
32 oz. do. do. do. do.	"	1	7½
¼ in. Rolled Plate...	"	1	3½
⅛ in. Rolled and Rough Cast...	"	1	6½
¼ in. do. do.	"	1	7½
⅛ in. Figured Rolled and Cathedral, Standard patterns— White Group 1	"	1	3½
do. Group 2	"	1	9½
do. Standard Tints	"	2	1½
do. Special Tints	"	7	3
¼ in. Pinstripe, Hammerstripe, Reeded, Reedlyte and Luminating Group 3	"	1	8½
¼ in. Wired Cast up to 50 in.	"	1	10½
¼ in. do. do. 50 in. to 72 in.	"	2	2½
¼ in. Georgian Wired Cast	"	1	11

Hollow Glass Blocks—

P.B.2	Cross reeded	5⅜×5⅜×3⅞ in.	each	3	9
P.B.3	Broad reeded	7⅜×7⅜×3⅞ in.	"	5	9
P.B.32	Cross reeded	7⅜×7⅜×3⅞ in.	"	5	9
P.B.4	Prismatic	7⅜×7⅜×3⅞ in.	"	6	6
P.B.5	Flemish	7⅜×7⅜×3⅞ in.	"	5	9
P.B.6	Boomerang	7⅜×7⅜×3⅞ in.	"	6	6

Half Size Blocks—

P.B.32	Cross reeded	7⅜×3⅜×3⅞ in.	"	4	10

Radiused Corner Blocks to match up with—

P.B.2	Cross reeded	"	8	1
P.B.3	Broad reeded	"	9	8
P.B.32	Cross reeded	"	9	8

P.B.2, P.B.3, P.B.32 are also supplied in Light Diffusing Blocks at same price.

¼ in. Polished Plate Glass, G.G. quality—

In plates not exceeding 2 ft. sup.	per ft. sup.	4	7
" " " 5 ft. sup.	"	5	7
" " " 45 ft. sup.	"	7	6
" " " 100 ft. sup.	"	7	6

¼ in. Polished Plate, extra sizes, i.e., plates exceeding 100 ft. sup. or 160 in. one way or 96 in. both ways. G.G. quality—Not exceeding 135 ft. sup. or 240 in. one way or 130 in. both ways ... " 11 4

Not exceeding 180 ft. sup. or do. ... ... " 15 0

Plates exceeding 180 ft. sup. prices on application.

Substances other than ¼ in. Polished Plate at Special Prices.

Quantity Tariff—Sheet and Sundry Glass.

The following prices apply to minimum quantities of one size and one pattern delivered by the manufacturer to one site at one time.

Description of Glass—	Minimum quantity	per ft. sup. s.	d.
18 oz. sheet O.Q.	3,000		7½
24 oz. " "	2,000		9½
26 oz. " "	2,000		11½
32 oz. " "	2,000	1	3½
¼ in. Rolled Plate...	1,000		10½
⅛ in. Figured Rolled and Cathedral Standard Patterns, White Group 1	1,000		10½
do. Group 2	1,000	1	2½
¼ in. Pinstripe, Hammerstripe, Reeded, Luminating and Spotlyte Group 3	1,000	1	2½
⅛ in. Rolled Plate or Rough Cast	2,000	1	2
¼ in. do. do.	2,000	1	2½
¼ in. Wired Cast, Hexagonal up to 50 in. ...	2,000	1	5
¼ in. do. do. do 50 in. to 72 in. ...	2,000	1	9
¼ in. Georgian Wired Cast	2,000	1	5½

THE BUILDER RATES OF WAGES

AS FROM FEBRUARY 6th., 1961. (Every endeavour is made to ensure accuracy but we cannot be responsible for errors)

1. Craftsmen and Labourers.

Region	Craftsmen	Labourers
	s. d.	s. d.
England & Wales (Grade A) ...	5 0	4 4½
London	5 1½	4 6
Liverpool and District ...	5 1½	4 6
Scotland... ...	5 0	4 4½

2. Apprentices.

Age	Per cent. of Craft Rate	London and Liverpool Dist.	England, Wales
		s. d.	s. d.
15	25	1 3½	1 3
16	33½	1 8½	1 8
17	50	2 6½	2 6
18	62½	3 2½	3 1½
19	75	3 10½	3 9
20	87½	4 6	4 4½

3. Young Male Labourers.

Age	Per cent. of Craft Rate	London and Liverpool Dist.	England, Wales and Scotland
		s. d.	s. d.
15	33½	1 6	1 5½
16	45	2 0½	1 11½
17	66⅔	3 0	2 11
18	100	4 6	4 4½

NORTHERN IRELAND is not included; rates fluctuate so much from district to district that reference should be made to local offices.
WATCHMEN.—The rates per shift for watchmen engaged on building sites is 27s. 6d. in London and Liverpool District, and 26s. 3d. in the provinces.
FEMALE OPERATIVES.—In all districts throughout the country except in Scotland the rate of wages for women, aged 19 and over, engaged in craft processes is 4s. 1½d. per hour. Women engaged on work other than craft processes, 3s. 9½d. per hour. In Scotland the rate for the woman craftsman is 4s. 4½d. after a probationary period, and the woman labourer, 3s. 10½d.

New Companies

THE FOLLOWING NEW COMPANIES, registered in England, have been announced by Jordan and Sons, Ltd., company registration agents.

BURTON & BELL LTD.—Regd. August 10, 1961. Grange-la., North Ferriby, E. Yorks. Bldrs. and contractors, etc. Nom. cap.: £3,000. Dir.: Wm. H. Burton, 13 Church Cottage, North Ferriby.

L. J. BUILDERS LTD.—Regd. August 10, 1961. Bldg. contrs., etc. Nom. cap.: £100. Dir.: Leonard J. Birch, 333 Harlesden-rd., Willesden, NW10.

QUALITY BUILDING (LITTLEHAMPTON) LTD.—Regd. August 10, 1961. 37 The Broadway, Stanmore, Mdx. Secy.: P. N. Cox. Nom. cap.: £100.

F. G. TREW & SON LTD.— Regd. August 11, 1961. 59 Eversley-rd., Sketty, Swansea. Secy.: G. A. Cox, Bldrs.' mchts., etc. Nom. cap.: £2,000.

FERRIS BROTHERS LTD.—Regd. August 11, 1961. 104/6 Churchfield-rd., W3. Secy.: H. S. Stephens. Bldrs. and ironmongers, etc. Nom. cap.: £1,000.

CLIFFORD HALE AND ASSOCIATES LTD.—Regd. August 11, 1961. 87 The Parade, Watford, Herts. Secy.: C. Bone. Bldrs. and contrs., etc. Nom. cap.: £100. Dir.: Clifford Hale, 19 Bedford-rd., Moor Park, Northwood, Mdx.

HARRY THOMAS & SONS (CONTRACTORS) LTD.—Regd. August 11, 1961. 59 Eversley-rd., Sketty, Swansea. Secy.: G. A. Cox. Bldrs., contrs., etc. Nom. cap.: £1,000. Dir.: Henry Thomas, 304 Oystermouth-rd., Swansea.

MARTIN SIMMS (CHELTENHAM) LTD.—Regd. August 11, 1961. Civil and genl. engrs., etc. Nom. cap.: £200. Sub.: Anthony J. Simms, Byways, Swindon-la., Cheltenham, Glos.

R. MELVILLE & SONS LTD.—Regd. August 11, 1961. 174 New Bond-st., W1. Secy.: R. A. Bowman. Plasterers, bldrs., decorators, etc. Nom. cap.: £1,500.

WALBY & SAGE (ROADS) LTD.—Regd. August 11, 1961. Coronation wks., Coronation-rd., Gilfach Goch, nr. Porth, Glam. Secy.: K. J. G. Walby. Bldrs. & public works contrs., makers & layers of roads, etc. Nom. cap.: £2,500.

R. B. HARGILL (CONSTRUCTIONS) LTD.—Regd. August 14, 1961. Bldrs., decorators, etc. Nom. cap.: £1,000. Dir.: Ronald B. Hargill, 23 Moxon-gr., Newton Hill, nr. Wakefield, Yorks.

GORDON RUSHTON (BUILDERS) LTD.—Regd. August 14, 1961. 71 Dudley-st., W. Bromwich. Secy.: H. Hill. Nom. cap.: £2,000.

P. HOGGARD LTD.—Regd. August 14, 1961. 1 Claremont-rd., Whitley Bay, Northumberland. Secy.: Joyce Hoggard. Bldrs., etc. Nom. cap.: £100.

JONES & SHARPIN (BUILDERS) LTD.—Regd. August 14, 1961. 146 Oxford-st., W1. Secy.: Susan E. Riley-Vickers. Nom. cap.: £100.

M. BRUNT & SON LTD.—Regd. August 15, 1961. 10 Godstone-rd., Purley, Surrey. Secy.: Evelyn M. Brunt. Bldrs., contrs., etc. Nom. cap.: £1,000.

WOLDS BUILDING COMPANY LTD.—Regd. August 15, 1961. Nom. cap.: £14,000. Sub.: Brian Jeacock, 89 Heath-la., Brinklow, Warwicks.

L. A. MOORE (BUILDERS) LTD.—Regd. August 16, 1961. Midland Bank Chmbrs., Nailsea, Bristol. Secy.: Megan J. Moore. Bldrs., etc. Nom. cap.: £5,000.

RECONSTRUCTION (CAMBRIDGESHIRE) LTD.—Regd. August 16, 1961. The Cose, Little Shelford, Cambs. Secy.: C. Hanson. Bldrs., etc. Nom. cap.: £100.

TUDDENHAMS (LONGTOWN) LTD. — Regd. August 16, 1961. 25 Bridge-st., Longtown, Cumberland. Secy.: J. W. Tuddenham. Bldrs. Nom. cap.: £10,000.

CATERHAM CONSTRUCTION COMPANY LTD.—Regd. August 17, 1961. Bldg. and constructional engrs., etc. Nom. cap.: £100. Dir.: Henry M. Smith, 74 Foxon-la., Caterham, Surrey.

KINGSGATE BUILDERS LTD.—Regd. August 17, 1961. 25 Harley-st., W1. Secy.: Patricia Freeman. Nom. cap.: £100.

G. M. ALLENBY LTD.—Regd. August 17, 1961. 57, Clifton-st., Hull. Secy.: Barbara Grayson. Bldrs., etc. Nom. cap.: £2,000.

J. S. LUPTON & SONS LTD.—Regd. August 17, 1961. 15 Lytham-rd., Freckleton, nr. Preston, Lancs. Secy.: Lydia M. Lupton. Bldrs. etc. Nom. cap.: £2,000.

European Timber Markets

Growing Consumption and Demand

EUROPEAN TIMBER MARKETS during the first three months of 1961 responded satisfactorily to growing consumption and demand, states the latest issue of the Timber Bulletin for Europe (HMSO, price 7s.), published jointly by the Secretariats of the United Nations Economic Commission for Europe and the Food and Agriculture Organisation. Supplies were readily forthcoming, and prices showed no more than moderate movements either way; in the main they were inclined to rise, particularly for roundwood. Forward buying in northern markets became listless in March, but was actively resumed towards April in an atmosphere of cautious optimism.

One feature of the January-March period, which may also eventually influence timber markets, has been the revaluation by 4.75 per cent of the western German currency in March, the Netherlands following suit. This revaluation was followed in May by a cut in the bank rate from 3½ to 3 per cent. Another feature in European economy during the first three months of 1961 was that Finland joined, as an associate, the European Free Trade Association (EFTA). Thus the three major European producers and exporting countries of softwood (except the USSR)—Finland, Sweden and Austria—and the United Kingdom, the largest importer and consuming country, are now members of this association. The commerce in wood products, on the other hand, such as pulp and paper, veneers and plywood, fibreboard and particle board, which carry considerable duty in producing countries, may, as time goes on, come to feel the effect of uniformly reduced tariffs. In the USSR, industrial production during the first quarter of 1961 is reported to have grown by 9 per cent over the corresponding figure for the previous year. Other eastern European countries are registering similar results in implementation of the 1958-1961 plans.

Benefits of Prosperity

A shortage of dwellings still exists generally, and building as well as the furniture industries is consequently active and thriving. External trade, which requires great quantities of wood and pulp products for packaging, has been and remains lively, contributing to the strong consumption of lower-grade sawnwood and of pulpwood, including residues such as edgings and slabs. Strong development in the paper and paperboard industries has contributed to the growing consumption of pulpwood. Forest and timber activity is benefiting from the overall prosperity, though not at the same rate everywhere, and not in all departments. From the point of view of the sawmills one almost permanent flaw remains—the discrepancy between the high prices of roundwood and those obtainable for the sawn product.

TECHNICAL REVIEW

This Review of plant, equipment and materials—in most cases new or with new features—is intended to give brief details only of the products mentioned. Notices are based on data supplied by the manufacturers. Additional information and prices can be obtained either direct or by using the prepaid Readers' Service form which appears on page 144 of this issue. The form can be used for more than one inquiry.

1. Ceilings

A new development in the field of all-metal SUSPENDED CEILINGS has been the recent introduction of a 4 x 2 ft. size pan without ribs. Primarily designed to ensure speedy erection, fewer fixing members are required as each pan engages in the tee bar fixing members at 4 ft. centres. The electro-galvanised mild steel channel normally needed with the standard type ceiling can, in this case, be dispensed with, and in no way affects the rigidity of the ceiling. Each tee section is therefore independently suspended from the structural soffite by suspension rods. Fixing costs are substantially reduced.

Pans can be supplied either with bevels on the two 4 ft. edges or alternatively bevelled on all sides. For suspended acoustic ceilings the pans are perforated and contain a 1 in. thick absorbent pad. For thermally insulated, suspended ceilings, pans are unperforated.

Burgess Products Co. Ltd.
PO Box 11, Hinckley,
Leicestershire.

2. Curtain Walling

The adaptability of aluminium to meet the ordinary needs of curtain walling systems, that is, light weight, easy assembly and resistance to weather, and at the same time to give scope in design, is well illustrated by the use of the 'Deltafast' ALUMINIUM CURTAIN WALLING system in a new office and canteen block in Co. Durham. The structural members of the curtain walling are of extruded aluminium alloy HE9 supplied by the British Aluminium Co. Ltd. Infill panels, glass and window frames are sealed against the weather by the means of extruded Neoprene sections. In this system, the mullion is formed as a two-part hollow section and special provision is made to deal with vertical expansion and contraction. Furthermore, the system is so designed that the number of fixing bolts required is reduced to a minimum. The building has infill panels 1½ in. thick. The outside face of these is composed of plywood ¾ in. thick faced with art-form Formica; the backing consists of ¼ in. thick gaboon faced plywood and the core is of ¾ in. thick expanded polystyrene.

Deltafast Ltd.,
Elswick Station Wks.,
Scotswood-road, Newcastle-on-Tyne 4.

The new office and canteen block of Tudor Food Products Ltd. in which the 'Deltafast' aluminium walling system is used

3. Cleaning

Built-in VACUUM SYSTEMS, in which the dust is piped to a central container, are becoming a feature in the domestic field. It makes household cleaning easier in that the only equipment necessary to carry is a lightweight plastic hose which will plug into an air suction socket provided in every room.

In the latest system the light alloy pipes, along which the dust is blown, are laid behind the skirting board or under the floorboards and are made in sections so that any valuable object inadvertently swept up can be more easily retrieved. The dust container for an average size house is approximately 10 in. x 6 in. x 6 in.; it can be installed discreetly under the stairs or in an outhouse, and needs emptying only 5 or 6 times a year. Extra fittings enable the system to be used for cleaning curtains, upholstery and the car. Further adaptions that may soon be out will provide for air extraction for the kitchen, paint spraying and, so it is reported, hair drying.

The Built-In Vacuum Cleaner Co., Ltd.,
93 Black Lion-lane, London, W6.

4. Drying Out

For the quicker drying out of new and renovated buildings a new mobile AIR HEATER is available. It can also be used for buildings soaked by floods or fire hoses. Air delivery may be either direct discharge from the heater outlet or an adaptor can be provided for single, two, three, or four duct outlets. Air is delivered at sufficient pressure to enable long lengths of flexible ducting to be employed and in certain circumstances the duct length can extend up to 390 ft.

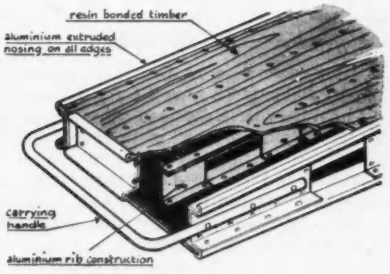
The equipment is direct-fired by propane and is fitted with runners for easy transportation. Complete with all controls the heater only requires connecting to commercial propane bottles and the electricity supply. Gas consumption at maximum output is 200 cu. ft. per hour, equivalent to 23 lb. weight per hour, and the nominal heat output is 500,000 Btu/h. In performance, a 110°F. temperature rise can be achieved at 4,000 cfm while with the airflow at 6,000 cfm temperature rise is 75°F.

Other uses of the air heater include the warming up of vehicles and supplying heated air for industrial or crop-drying processes. For fume dispersal or fresh air supply in confined spaces the equipment may be employed with the heating system inoperative. A wide range of accessories is available.

Woods of Colchester Ltd.,
Colchester, Essex.

5. Lightweight Staging

New ALUMINIUM STAGINGS, which are lightweight yet durable, have been marketed under the name of 'Alispan.' The stagings, built on the stressed skin principle, are constructed of extruded aluminium alloy sections forming continuous riveted beams, strengthened with reinforced ribs and skinned with resin-bonded timber decking. The wide and flat hard-wearing surface enables large areas to be decked without gaps, therefore providing a good measure of protection. The amount of deflection and sag under normal loads is negligible.



Access Equipment Ltd.,
Maylands-ave., Hemel Hempstead,
Herts.

6. Technical Publications

An information bulletin (No. 13) on protecting plywood used externally has recently been published by THAMES PLYWOOD MANUFACTURERS LTD. It deals briefly with causes and effects of weathering in wood, and outlines the treatment needed to avoid subsequent deterioration. International Paints Ltd. have also contributed a useful section giving some basic precautions to be taken when working plywood which is to be used externally, and full details of their recommended finishes. International prefer a polyurethane resin finish for the protection of plywood used externally and paint in preference to varnish. Copies of the leaflet are available, free of charge, from the company at Harts Lane, Barking, Essex.

News in Brief

Demonstration of High Speed Building

A BUILDING of 1,800 sq. ft. was erected on August 30 on a site adjacent to the BIF site at Castle Bromwich in two hours, and then dismantled and reloaded onto transport in the same time. The demonstration was carried out by Terrapin Ltd., of Fitzroy-street, London, W1, who claim that the rate of erection after completion of pad foundations is up to 4,000 sq. ft. of finished building floor area per day. The price ex-works is 27s. per sq. ft. to which must be added the cost of transport, crane hire and erection.

Sheffield Development Continuing

DESPITE THE recent economic restrictions the Sheffield housing committee are considering tenders for 290 flats and garages on the Gleadless Valley Estate in accordance with their slum clearance scheme.

New Sheffield Store

THE STORE to be built opposite Sheffield City Hall by the John Lewis Partnership, who own Cole Bros. Ltd., will have a floor area of more than 200,000 sq. ft. It will be four or five storeys high, and there will be a basement below ground level if permission is obtained to waive the local by-law governing the level of the lowest storey. A car park for 400 vehicles is also incorporated in the design. Demolition of old property on the site has commenced.

Guildford Scheme Deferred

THE DEVELOPMENT CONTROL SUB-COMMITTEE of Surrey Town and County Planning Committee have deferred stage one of the redevelopment at Pannel's-court, Guildford, consisting of three shops with ground and first floor accommodation, on the grounds that the car parking facilities did not conform to the standards required by the county.

Piling at Camelford House

THE FOUNDATIONS for Camelford House, the 16-storey 'T' shaped office block being erected on the Albert Embankment, are almost completed. Ninety cylindrical piles have been bored to a depth of 55-65 feet by Economic Foundations, of Victoria-street, Westminster, in six weeks. The diameters of the shafts vary between three and seven feet, and have been excavated by two boring rigs and one crane using the 'corkscrew' auger method of drilling. Main contractors for the £1¼m. project are Sir Robert McAlpine and Sons. The architects are Messrs. T. P. Bennett and Son and the engineers are Messrs. R. T. James and Partners.

Polish Cement Imported

BECAUSE OF the shortage of home supplies, Polish cement is being imported into South Wales. Three cargoes have already been discharged at Newport (Mon) and another is due. The cement is 24s. a ton dearer than home produced supplies.

Essex Rivers and Stour Basin Survey

A HYDROLOGICAL SURVEY of the Essex rivers and Stour basins by the Surface Water Survey of the MoHLG has been published. It is the third in a series, the earlier surveys having covered the Great Ouse and Severn river basins. The survey covers one of the driest parts of the country and compares the present water resources with requirements and suggests future developments. It is available from HMSO, price £1.

CEA Programme

THE COMBUSTION ENGINEERING ASSOCIATION has published its programme for September 1961 to March 1962. It includes a display of coal and ash handling equipment at Salford BR Goods Yard from September 19 to 21, and a conference at Leeds on October 19, for which the subjects will be 'Grit and Dust from Small oiler Plants' and 'NIFES' Seventh Progress Survey.' Further details may be obtained from the association at 70 Jermyn-street, SW1.

From Malaya to the M6

TWENTY-ONE-YEAR old Miss Kik Hong Ong of Ipoh, Malaya, a student at London University, is working during the summer vacation as a student civil engineer for John Laing Construction Ltd., on the Staffordshire section of the Birmingham-Preston Motorway, M6. She is the first woman to be employed in this capacity by the company. Her two brothers are also working for the company on the Birmingham-Preston Motorway.

A New Plastic Brick

PARKIN ENGINEERING, DEVELOPMENT AND FINANCE of Rotherham has patented a design for plastic bricks, which are made of chemically fire-proofed polyester fibre, bonded to a central insulated material of unconnected cellular structures. It is claimed that they will outlast ordinary building materials and can be treated to enable the colour scheme to last the life of the building. Wiring and conduits can be incorporated in the insulating skin. The manufacturers claim, that as far as they can estimate at this stage, construction costs should be the same as for brickwork, and heating costs less.

Trade News

Exhibition of Portable Lamps

THE PRIVATE EXHIBITION of Nife portable lamps is to be held at the Park Hotel, Cardiff, from November 20 to 23, and not as previously stated. Due to unforeseen circumstances the original dates have been changed by the promoters.

Reduction to Laminate Veneer Prices

BAKELITE LTD., manufacturers of Warerite decorative laminates, have announced a reduction in the price of Warerite veneers, from 4s. to 3s. 2d. per sq. ft.

Board Prices Reduced

THE BARTREV BOARD CO. LTD. are offering considerably increased discounts to the trade, based on their Merchants' Price List, dated January 1, 1961. At the same time, the retail prices of all products to the public have been reduced, some by more than 20 per cent.

Price Increase

OWING TO THE higher cost of raw materials, J. Manger & Son, have had to increase the retail price of their caustic soda by 1d., from 1s. 9d. to 1s. 10d. per lb., from August 1.

Contract Labour Service

WOOD, PRITCHETT & PARTNERS LTD., 30/38 Hammersmith Broadway, London, W6, announce that their Contract Labour Service is now operating on a world-wide basis. The service provides contractors with completely skilled labour groups for overseas projects and is designed to simplify the availability of tradesmen for overseas construction work. During the past four years, the company has been actively associated with the construction and installation of micro-wave projects and atomic missile bases and its permanent labour force now exceeds 500 tradesmen.

Plant Division Transferred

THE BRITISH STEEL PILING CO. LTD., announce the transfer of their Plant Division from London to Zenith Works, Claydon near Ipswich. In future enquiries and orders for pile driving equipment for sale or hire, should be made to the Suffolk works. The company's Piling Division dealing with Frodingham steel sheet piling, box piles, steel trench sheeting and BSP cased piles remains at 10 Haymarket, London, SW1.

New Branch Office

UNITED DOMINIONS TRUST opened a new branch office at 29 North-parade, Aberystwyth, Cardiganshire, on August 28 (tel.: Aberystwyth 7932/3).

Company News

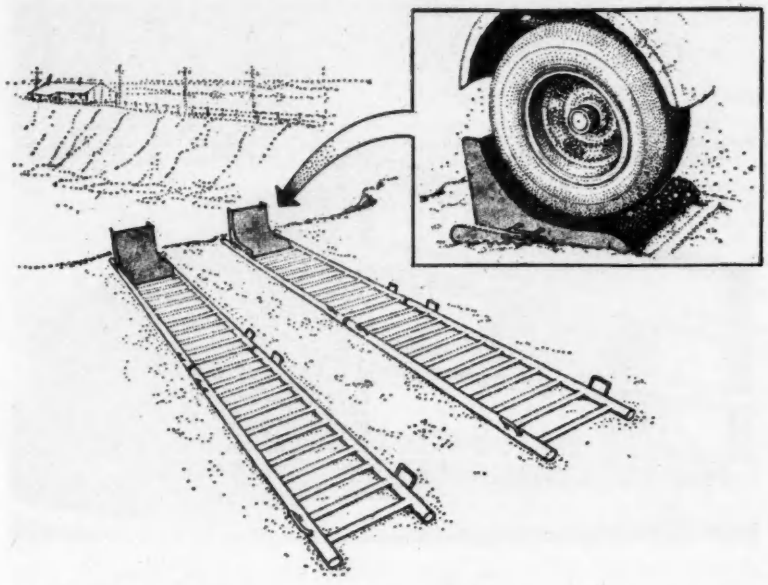
EXPANDITE LTD. are to recommend the payment of a final dividend of 6¾ per cent (less tax) to shareholders registered in the books of the company on August 8, 1961, making a total of 10 per cent (less tax) for the year ended April 1, 1961.

Personal Column

Messrs J. Gerrard & Sons Ltd., builders and civil engineering contractors of Swinton, Lancs., have appointed MR. THOMAS COATES, MENG, MIEE, MIMECHE, as managing director with effect from December 4. In the meantime he will act as general manager.

Ekco Heating & Electrical Ltd. has appointed MR. A. C. HENDERSON as Ekco 'Warmglow' electric blanket sales representative covering the London area south of the Thames. His home address is 55 Warwick Park, Tunbridge Wells, Kent. MR. G. W. T. GOODHEW has joined the company as sales representative covering central London and the West End. Mr. Goodhew resides at 12 Whiteheath-ave., Ruislip, Middx.

MR. W. MORRIS, Secretary of Colt Ventilation Ltd. and its associated companies, and MR. F. W. PRICE, sales manager of Colt Ventilation Ltd. and W. H. Colt (London) Ltd. have been appointed directors of the Colt Associated Companies.



Safety stops for reversing tipping trucks

Truck Accidents on Building Sites

Hints on their Prevention

From a Transport Correspondent

DUMPERS and tipping trucks on construction sites have been responsible for an increasing number of accidents during recent years, according to the quarterly review 'Accidents—how they happen and how to prevent them,' prepared by the Ministry of Labour from factory inspectors' reports. A particular source of danger is said to arise from vehicles overrunning the edge of an excavation or tip when reversing to deposit material. It is pointed out that specially-designed safety stops—one of which is illustrated—are available to prevent this. In addition, a second person should always be available to give the driver signals.

Quoting a fatal accident resulting from the failure of a dumper steering gear, which in turn arose from a missing nut and split pin, the report points out that conditions on building and civil engineering sites, where vehicles become covered with a coating of mud, make proper mechanical inspection difficult. It is urged that steps should be taken to ensure that mud is removed as a part of routine maintenance, especially in the vicinity of brakes, steering linkages and other controls where failure may lead directly to serious accident. Some of the worst accidents have involved workmen being crushed against walls or other vehicles by reversing trucks. To prevent these, many undertakings now make it a rule that every vehicle entering a site must report to a responsible individual, who will then appoint a 'traffic man' to remain with the vehicle and direct its movements until it eventually leaves the premises. In some instances it is now the practice to require the provision on vehicles of a special audible warning device which will be heard when any vehicle moves into reverse.

The divided or detachable rim types of wheel, fitted to most medium-weight and heavy trucks, still provide a special hazard if drivers or other employees with relatively limited experience of motor vehicles have occasion to change a tyre. The dangers are well-known in garages where such work is undertaken frequently, but a contractor's other employees often do not realise that this type of wheel can fly apart with shattering force if the retaining bolts are slackened before the tyre is deflated, or if a newly-fitted tyre is inflated before the bolts are made secure. A warning notice illustrating the precautions that should be taken, prepared by HM Factory Inspectorate, is now available from HMSO (Factory Form 428, 1s.). This issue of 'Accidents' gives examples of numerous other mishaps associated with the transport and handling of goods and materials, which are responsible for one-quarter of all reportable accidents. Copies are obtainable from HMSO, price 1s. 3d.

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Building in Northern Ireland

Programme Unaffected by Economic Cuts

THE NORTHERN IRELAND GOVERNMENT, after considering the recent economic measures as they affect Northern Ireland and after consultations with the British Government, have announced that, whilst they realise that Northern Ireland cannot be insulated from all the effects, there will be no slowing down in government-financed development programmes.

The report continues: 'Local authorities will not be asked to curtail their programmes of work or to postpone any desirable projects. The Government attaches special importance to housing, and to enable housing authorities to maintain a stable programme in the face of rising costs there will be an increase in the amount of subsidy. This will not be a temporary measure as in 1958, but an addition to the basic rate of subsidy. The increase for a house of 800 sq. ft. will be £8 a year; increases for smaller and larger houses will be proportionate.

'Special rates of grant will again be available for works which will provide additional employment this winter. The scheme will be on the lines of previous years. On this occasion it will include work on roads which is particularly valuable from the point of view of male employment. The Government's share of this expenditure is likely to be heavy and will absorb much of the extra revenue accruing from the 10 per cent surcharge on customs and excise duties. As a result the Road Fund, which has other heavy commitments, will on this occasion make only a nominal contribution to the cost of special road schemes. In addition, for ordinary road work financed from the Road Fund local authorities are being informed that the present high rates of grant will be continued for the next two years, thus providing for an increase of 50 per cent in the Government contribution to such work.'

Indian Visit to Institute of Welding

DURING THE past two months, a productivity team on welding from the National Productivity Council of India has been visiting Japan, the USA and West Germany, and at the invitation of the Institute of Welding is to visit Great Britain from August 21-25. The object of the tour is to study the use of welding in the countries visited, in order to find out how industrial productivity in India can be improved through greater and better use of welding.

OVERSEAS BUILDING

From Our Own Correspondents

AUSTRALIA (SOUTH).—The Australian subsidiary of Cyanamid, the American chemical firm, plans to construct a multi-million pound factory in Melbourne. The first section will be completed later this year and further development may follow.

CANADA (BRITISH COLUMBIA).—A $10m. irrigation project is proposed for the North Okanagan Water Board. . . . Forest Products Ltd. is to construct a $25m. newsprint building at Crofton. . . . Rayonier Canada Limited is completely rebuilding its plant at Woodfibre at a cost of $15m. . . . B.C. Electric Co. Ltd. is constructing a thermal electric power plant at Ioco.

CANADA (NORTHWEST TERRITORIES).—An air terminal building is to be constructed at Inuvik.

CANADA (ONTARIO).—Webin Community Consultants plan the construction of a 1,000-suite apartment hotel in Toronto.

GHANA.—Barclays Bank DCO have reported the following developments:—an industrial and commercial area in Accra to include a new ten-storey city hall and four-storey department stores and a plan to increase the population of Tema from 80,000 to ¼m. people. Both these projects are by the Greek firm of architects, Messrs. Doxiadis Associates. Also reported, the development of the Korle Bu residential estate in Accra to include eight-storey buildings, a shopping centre and swimming pools.

SOUTH AFRICA (SWAZILAND).—Rush & Tompkins (Swaziland) (Pty) Ltd., have been awarded a £190,995 contract for 19 miles of road construction near Bremersdorp for the Public Works Department. The consulting engineers are Niekerk, Kleyn & Edwards, of Pretoria.

SPAIN.—Dow-Unquinesa are to erect a new petro-chemical plant at Somorrostro near Bilbao to be completed in two years.

Paint Brushes Exported

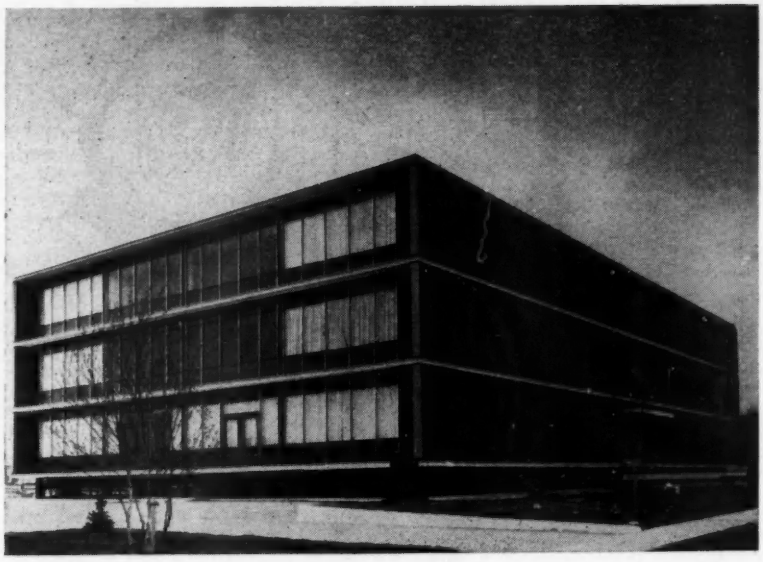
THE BRITON BRUSH CO. LTD. of Wymondham, Norfolk, has been congratulated by the Minister of State, Board of Trade, on its excellent export achievements and, on Friday, August 25, the company was visited by Mr. John E. B. Hill, MP, member for South Norfolk, to convey the Minister's appreciation. The Briton Brush Co. are exporting domestic and painting brushes of all types to over 60 countries.

Automatic Brick Plant in Australia

THE FIRST fully automatic brickmaking plant in Australia was completed recently for the South Australian Brick Co. Pty. Ltd. The equipment, which includes artificial driers and an oil fired tunnel kiln cost nearly £250,000.

Rapid Steel Erection in India

THE UK PAVILION at the Indian Industries Fair is a 'Tayspan' building developed from the Arcon range of buildings and specially designed to meet Indian loading requirements. It covers 43,000 sq. ft. and the steelwork was erected in 10 days.



ONTARIO HOSPITAL ASSOCIATION HEADQUARTERS.—*The recently completed three-storey headquarters building of the Ontario Hospital Association at Flemingdon Park, near Toronto, built by Taylor Woodrow (Canada) Ltd. A feature is the provision of internally controlled vertical louvres which curtain the entire east and west elevations. Accommodation includes an assembly hall, two lecture rooms, a library and staff cafeteria. The architects were Messrs. Peter Dickinson Associates, and the engineers, Messrs, Giffels and Vallet of Canada Ltd.*

SCOTTISH BUILDER

Factory Contract Placed

THE ROOTES GROUP has announced that the main building contract for its new car factory at Linwood, Renfrewshire, has been awarded to Melville, Dundas, and Whitson Ltd., of Glasgow, one of Scotland's largest construction companies. The contract, placed for the Rootes Group by the Industrial Estates Management Corporation for Scotland, is worth £2.5m.

The building will cover an area of more than 3,250,000 sq. ft. This contract is the largest single item in the £4m. factory.

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New Buildings

ABERDEEN.—The town planning committee of Aberdeen corporation has approved in principle preliminary plans for the city's first supermarket. The plans were submitted for a site at 107-117 George-st., occupied by shops and tenements and belonging to Associated British Foods. The plans are for a single-storey main building with two-storeys at the rear.

DUNDEE.—Housing Committee are studying plans for the development of the central Hilltown area of the city. These included four 4-storey blocks of flats. Each contain 110 houses. The whole scheme includes 600 houses, super markets, shops, play space etc. It is estimated that it will cost in the region of £2 million. The 23-storey flats will, it is claimed, be the first in Scotland.

GLASGOW.—Brunswick Bowling Ltd. have succeeded in reversing an earlier decision against a 10-pin bowling alley near Hampden Park, Glasgow. The plan includes a hotel and restaurant at a cost of £250,000. This company plans three other bowling alleys in Glasgow. . . . The Corporation is to ask private developers to handle the Anderston Cross shopping and commercial centre. An area of about 5.5 acres in North-st./Argyle-st./Bothwell-st. is scheduled as the new centre, and development is proposed on pedestrian precinct lines. . . . The BTC have offered a site at Jamaica-st. for development. It has 59 ft. frontage and 3,800 sq. ft. of space in a peak shopping area. Another nearby development is proposed by Montagu Burton Ltd. who are to build showrooms, offices and a restaurant over their premises at Union-st./Argyle-st., Glasgow.

THE BUILDER CONSTRUCTION NEWS

Full details of Public Appointments open will be found in the Advertisement pages of this and previous issues.

CONTRACTS OPEN

For some contracts still open but not included in this list, see previous issues. Those preceded by the symbol (A) are advertised in this number. The latest date for the receipt of tenders or applications appears above each paragraph. The symbol (R) preceding each entry indicates that application must be received by this date.

BUILDING

SEPTEMBER 6

LIMERICK (Eire).—Erection of proposed new factory building at Dock-rd., Limerick. Dermot O'Reilly, Hyland & Co., chartered quantity surveyors, 65 O'Connell-st., Limerick. Dep. £20.

SEPTEMBER 8

(AR) GLOUCESTERSHIRE CC.—Erection of old people's homes at Brockworth, Gloucester, and Cadbury Heath, Warnley. County A. Dep. £2 2s.

(AR) WEST SUSSEX CC.—Erection of two classrooms at prim. sch., North Chapel, nr. Petworth. County A.

SEPTEMBER 9

(AR) CALNE & CHIPPENHAM RDC.—Redevelopment of Rudloe Camp. Edwards & Webster, Ccl's. architects, 10 St. Mary-st., Chippenham, Wilts.

SEPTEMBER 11

(AR) GUILDFORD RDC.—Erection of nine flats, etc., at Shawfield-rd., Ash. E&S. Dep. £2 2s. Tenders by Oct. 11.

(AR) HUYTON-WITH-ROBY UDC.—Fixed price tenders for a two-storey council office block. A & Housing Director.

(AR) LEICESTER CITY C.—Firm price tenders for the second instalment of Blaby CoE prim. sch. County A. Tenders by Oct. 9.

(AR) NORTHAMPTONSHIRE CC.— Erection of mental health training centres at Kettering, including services, etc., County A.

(AR) TWICKENHAM BC.— Extension of sports pavilion at Beveree Sports Ground, Station-rd., Hampton. Boro' E. Dep. £2 2s.

SEPTEMBER 14

(A) BRENTFORD & CHISWICK BC.—Erection of a garage for tractors at Duke's Meadows, Chiswick, W4. Boro' S.

(A) WREXHAM BC.—Fixed price tenders for: (a) 20 garages at Queen's Park; (b) 17 garages at Queen's Park; and (c) demolition of 11 dwellings at Madeira Hill, Boro' E&S. Dep. £1 1s. (each contract).

SEPTEMBER 15

(AR) DUDLEY CBC.—Erection of 272 dwellings at Russells Hall estate. Boro' A. Dep. £2 2s.

(A) FRIERN BARNET UDC.—Erection of civil defence centre. E&S.

(AR) HORNSEY BC.—Erection of public mortuary at Myddelton-rd., N8. Boro'E&S. Tenders by Oct. 16.

(AR) WORCESTERSHIRE CC. — Extensions to Stourport sec. sch. Nicol, Nicol & Thomas, architects, 11 New-st., Birmingham, 2.

SEPTEMBER 21

ARMAGH.—Erection of an intermediate school and ancillary works at Crossmaglen, Co. Armagh. W. H. McEvoy, chartered surveyor, Ulster Bank-chbrs., May-st., Belfast. Dep. £5 5s.

SEPTEMBER 22

(A) BRAINTREE & BOCKING UDC.—Fixed price tenders for two houses, etc. S. Dep. £2 2s.

(A) EALING BC.—Construction of covered way, lavatories and printing room at rear of Town Hall, Uxbridge-rd. Boro' E. Dep. £2.

LETTERKENNY UDC (Eire).—Erection of 37 houses and development of sites at Ballyboe/Glencar, Letterkenny. Town Clerk, Kilmacrenan-rd., Letterkenny, Eire. Dep. £10.

SEPTEMBER 25

(AR) WARWICK RDC. — Fixed price tenders for permanent housing at Bishop's Tachbrook. Clerk to C. Dep. £2 2s.

SEPTEMBER 26

(A) ILFORD BC.—Construction of boat-house and sailing centre at Forest-rd. Boro' E&S. Dep. £2 2s.

SEPTEMBER 27

(A) BOURNEMOUTH CBC.—Fixed price tenders for two laboratories as extension to Bournemouth Municipal College, Lansdowne. Boro' A. Dep. £2 2s.

(A) HESTON & ISLEWORTH BC.—Erection of 36 flats, 32 houses and 68 garages at Whitton Dene/Hall-rd. development. Boro' S. Dep. £2 2s.

SEPTEMBER 29

(AR) CHESHIRE CC.—Inclusion in list of approved contractors. County A.

OCTOBER 2

(A) LINDSEY CC.—Erection of a sec. mod. sch. at North Somercotes. County A.

(A) READING CBC.—Firm price tenders for six flats and 19 prefabricated garages at junction of Shinfield and Whitley Wood-rds. Boro' A. Dep. £2 2s.

(A) RICHMOND BC. — Erection of 13 bungalows on land off Thompson-ave. Boro' E. Dep. £2 2s.

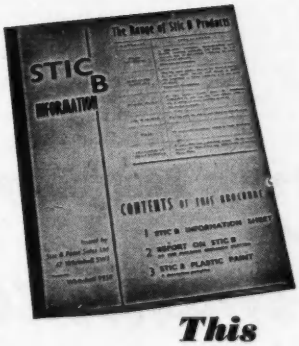
OCTOBER 3

(A) CROYDON CBC.—Erection of 74 dwellings at Stroud Green Way and Ashburton housing estate. Boro' E.

OCTOBER 6

(A) BOURNEMOUTH CBC.—Fixed price tenders for the modernisation of a laboratory at Porchester sch., Porchester-rd. Boro' A. Dep. £1 1s.

(A) BUCKINGHAMSHIRE CC.—General building work, etc. (12 contracts). County A. Dep. £3 3s. (each contract).



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OCTOBER 30

(A) WEST HARTLEPOOL CBC.— Phase one of proposed College of Further Education in central area. TC.

NO DATE

(A) SOUTH MANCHESTER HOSPITAL MANAGEMENT COM.—Inclusion in selected list of contractors for building, engineering, electrical and decorative works at hospitals and clinics. Group Supplies Officer, Withington Hospital, Manchester 20.

SERVICES, PAINTING, MATERIALS, ETC.

SEPTEMBER 6

(AR) LEEDS REGIONAL HOSPITAL BD.—(a) Air conditioning, heating, hot water supply and sterilising equipment installations, and (b) electrical installation at The Lloyd Hospital, Bridlington. Regional E. Dep. £2 2s. Tenders by Oct. 2.

SEPTEMBER 13

(AR) DURHAM CC.—(a) Heating and hot and cold water installation at Penshaw remand home. (b) Structural steelwork at Peterlee Police station. County A.

(A) FYLDE WATER BD.—Erection of a silo and stirk shed at Croasdale House farm, Slaidburn, Yorks. E to Bd.

SEPTEMBER 19

(A) BOURNEMOUTH CBC.—(a) Electrical installations, and (b) laboratory furniture, for extensions to Bournemouth Municipal College, Lansdowne. Boro' A.

(A) TAUNTON BC.—External rendering to 98 houses at Musgrove estate. Housing Maintenance Super.

SEPTEMBER 25

(A) ABERYSTWYTH BC.—Reconstruction of Town Hall (services). Boro' S.

OCTOBER 9

(A) DEPTFORD BC.—Supply and installation of new No. 5 Cochrane vertical oil-fired steam boiler at Bathing Station, Speedwell-st. Boro' E.

MUNICIPAL AND CIVIL ENGINEERING WORKS, ETC.

SEPTEMBER 11

YORK CITY C.—Construction of approximately 4,000 sq. yd. of 6 in. thick reinforced concrete carriageway, 2,800 sq. yd. of 4 in. thick concrete garage forecourts, 5,000 sq. yd. of tarmacadam footpaths, and ancillary works, including grassed areas, surface water and foul drainage, and resurfacing of existing carriageways, for stage II of Windsor Garth redevelopment. City E&S and Planning Officer. Dep. £2.

SEPTEMBER 22

LIMERICK (Eire) CC.—Provision and installation of two complete sets of pumping plant in the council's two pumping stations at Ardagh, Co. Limerick. Patrick J. Sheahan, constg. engr., 47 O'Connell-st., Limerick. Dep. £10 10s.

SEPTEMBER 30

FLAXTON RDC.—Fixed price tenders for the construction of sewage disposal works extensions at Stockton-on-Forest. Fairbank & Son, constg. engrs., 29 St. Mary's, Bootham, York. Dep. £3 3s.

GENERAL BUILDING WORK (LONDON)

BETHNAL GREEN.—Planning Application.—The BC has forwarded a town planning application to the LCC for the erection of 76 flats, etc., at Columbia-sq.

CAMBERWELL.—Planning Application.—The LCC has received a town planning application from Peter Rycroft for the erection of an RC prim. sch. at Barry-rd., Dulwich.

DEPTFORD.—Planning Application—BC has forwarded to the LCC a town planning application for residential redevelopment at Ommaney-rd./Jerningham-rd.

GREENWICH.—Planning Application.—Seventeen flats and 14 garages are to be erected at Lee-rd., Blackheath, if a town planning application, now in the hands of the LCC, is granted. Applicant is Eric Lyons, architect.

HAMMERSMITH.—Planning Application.—BC has forwarded a town planning applica-

tion to the LCC for an 11-storey block of flats at Mardale/Southbrook-st. redevelopment area.

LAMBETH. — Planning Application.— Austin Vernon has forwarded a town planning application to the LCC for 74 houses and flats, etc., at Croxted-rd., Dulwich.

(PROVINCIAL)

ASHINGTON (NORTHUMBERLAND).— A small shopping centre to serve the Greenla. housing estate is planned by the UDC. The Surveyor is M. Jameson. It is expected that the work will be carried out by the council's direct labour dept.

ATHERTON.—The UDC propose the erection of 21 flats and 16 garages at Gib Fold . . . . Staveleys Ltd. propose works extensions off North-rd.

AYLESBURY.—Factory premises in the High-st. are to be rebuilt by the Nestle Co. Ltd., at an estimated cost of £250,000. Architects are Beard, Bennett & Wilkins, of Baker-st., London, W1.

BASINGSTOKE.—A new swimming pool is to be built by the BC on a site adjoining a car park at South Ham estate. . . . The Wessex Regional Hospitals Board is going forward with the examination of a project to provide a new district general hospital on a 30-acre site in a fork of the Basingstoke/Newbury and Tadley-rds. . . . CC propose two new county primary schools for about 840 children at Winklebury.

BIRKENHEAD.—The erection of a dining room, assembly hall and caretaker's accommodation is proposed for the High School for Girls by the Girls Public Day School Trust.

BLYTH.—Plans have been approved for houses and shops at Fountains Head Bank, Blyth, for R. A. Gofton and Son Ltd., builders and contractors, Front-st., Monkseaton. . . . W. Leech Ltd., builders, St. James-st., Newcastle-on-Tyne, have received permission to erect 18 flats, two houses, and shops and flats at Tynedale-dr., Blyth.

BOLTON.—The Manchester Regional Hospital Bd. propose the erection of an occupational unit at the District General Hospital.

BOURNEMOUTH.—TC plan the erection of 180 3-bed houses on Turbary Common next year.

BRIDLINGTON.—BC are contemplating the construction of a bathing pool. Est. £60,000

BRISTOL.—A new storage depot is to be erected at the Brislington trading estate by Schweppes Ltd. . . . Matthews & Son, of Gower-st., London, WC1, are the architects for proposed extensions to an office block for the Bristol Siddeley Engines Co. Ltd.

BURNLEY.—Holden & Hartley Ltd. propose erection of a petrol filling station, car showrooms and workshops at Trafalgar.

CALSHOT/FAWLEY (Hants).— The Central Electricity Generating Board plan an oil-fuelled power station on reclaimed land between Fawley and Calshot. Planning permission is being sought. Est. cost is said to be £70m.

CASTLE WARD (Northumberland).—The Council of King's College, of 3 Devonshire-ter., Newcastle-on-Tyne, have received planning permission to use the Close House for educational purposes, and to erect residential accommodation for students. The name of the architect is not yet available.

CHESTER - LE - STREET. — A £110,000 motel is planned at Birtley for Highway Hotels Ltd., Sunderland. Architects are Matkin and Hawkins, Barclays Bank-chbrs, Fawcett-st., Sunderland.

CHRISTCHURCH.—SW Hants Area Planning Committee recommend the approval for: Shops and flats at the rear of High-st., Christchurch and construction of road linking the Christchurch by-pass with Millhams-st. for Larches Estates Ltd.; open-air swimming pool on land at Tuckton Golf Course, Stour-rd., Christchurch.

COULSDEN.—The South West Metropolitan Regional Hospital Bd. propose an occupational therapy unit at Cane Hill Hospital. Architects: Howes and Jackman, 1 Verulam-Bldgs., Grays Inn, London, WC1.

CROMPTON.—Residential development is planned at Lyon Mill site by private enterprise.

CROWTHORNE.—The DSIR are to erect new laboratories and offices at the Road Research Dept. . . . Exors. of H. E. Burbridge, and J. R. Knox, propose erection of 64 houses and 48 flats between New Wokington-rd., and Oaklands-la. Inquiry held.

EASTLEIGH.—BC's Town Planning Committee has granted permission to: Town & City Properties Ltd. for the erection of 28 shops, including supermarket, 24 maisonettes, showrooms and offices, on land adjoining Central Club, Winchester-rd., Chandler's Ford; and to South Hants. Harvesting Co. for a depot and commercial filling station on same site.

ELLESMERE PORT.—20 acres of land at Stanlow have been reserved for the construction of an oil terminal. It will be erected for the Total Oil Products (GB) Ltd., and will cost £250,000. . . . Residential development on 160 acres of land adjoining Stanney housing estate is proposed by the BC.

FLEETWOOD.—A £254,000 development scheme is to be started here next spring by Embray Investments Ltd., of Oldham. The plans, prepared by Design Associates, comprise an eight-storey block of 39 flats, a 100-seater circular public restaurant and a six-storey, 50-bedroom hotel.

GATESHEAD.—The Boro' Engineer (G. F. Winters) has prepared layout plans for the erection of 38 old people's bungalows on the Sheriff Hill estate; no contracts let. . . . Outline plans have been approved for a single-storey warehouse and three-storey office building at South Shore-rd. for A. S. McHugh and Co. Ltd., electrical contractors etc., 46 Sandhill, Newcastle-on-Tyne. The name of the architect is not yet available.

Contracts Placed

We are glad to receive from architects and quantity surveyors for publication details of contracts placed to the value of £20,000 or over. Such information should reach the Editor as soon as possible after the contract is signed. Names of the architect and other consultants associated should be given.

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GREAT HARWOOD.—UDC propose the erection of 24 aged persons' flatlets, warden's accommodation and common rooms at Lyndon-ave. and Harwood-la.

HEMEL HEMPSTEAD.—The General Electric Co. Ltd. propose new workshops and offices at Maxted-rd. Architects: Clifford Tee and Gale, Buckingham Palace-gdns., London, SW1.

LEIGH (Lancs.).—BC propose extensions to bus station at King-st. . . . North Western Electricity Bd. propose erection of sub station at Alma-st.

LITTLEBOROUGH.—90 dwellings are planned at New Platt Farm by private enterprise.

LUTON.—Shops are to be built at Wigmore-la., Ramridge estate, by the TC. . . . Fifty-five dwellings and some garages are to be erected off Limbury-rd. for Pearce & Barker Ltd.

MAIDENHEAD.—G. & M. Constructions Ltd., Paddington, propose erection of 36 flats and maisonettes and 36 garages on the site of Calder Lodge, Gringer Hill. . . . Thames Valley Traction Co. Ltd. propose extensions to bus station at Bridge-ave. . . . TC's Planning Committee has approved proposals for: Demolition of Calder Lodge, Gringer Hill, and for the erection on site of 36 flats and maisonettes in 5 three-storey blocks with 36 garages; and proposals for extending and improving present bus station in Bridge-ave.

MARYPORT.—Cumb. CC propose erection of new junior and infant sch.

MIDDLESBROUGH.—TC is to consider tenders for the erection of 130 houses on the Easterside estate, and 21 at Newport-rd., Middlesbrough. The Boro' E is J. A. Kenyon. . . . The following firms have been invited to submit schemes for proposed housing developments at Longlands-rd.: John Laing Construction Ltd., New Bridge-st., Newcastle-on-Tyne; Richard Costain Ltd., Marton-rd., Middlesbrough; and F. Shepherd and Son, Blue Bridge-la., York The scheme will involve the erection of about 400 dwellings.

NEWBURY.—BC propose improvements to swimming pool. Architects: Sutton, Griffin and Sweetman, 87 Northbrook-st., Newbury.

NEWCASTLE-ON-TYNE.— Planning approval has been given to the erection of the proposed Firfield sec. mod. sch. for EC. Architects are G. H. Gray and Partner, 8 Portland-ter., Newcastle. . . . Plans are being prepared by R. Turley and Associates, 46 Jesmond-rd., Newcastle, for shops and housing developments at West-rd., and Slatyford-la. for George Bainbridge Ltd., builders, 205 Westgate-rd., Newcastle.

PRESTON.—A new outpatients' dept. is to be erected at Sharoe Green Hospital, Fulwood, for Manchester Regional Hospital Bd.

PURBROOK (Hants.).—CC propose a new county secondary girls' school—accommodating 600 pupils.

READING.—Robert Cort & Son Ltd., Reading Bridge Iron Works, propose new office block at Hagley-rd.

SCARBOROUGH.—A 400 yd. long extension to the North Promenade is proposed by the BC. It will cost £150,000.

SHEFFIELD.—A new hotel is to be erected at Burlington-st. for Wm. Stones Ltd.

SHERBORNE.—The Governors' of St. Aldhelm's CoE sec. mod. sch. plan extensions including gymnasium, 2-storey classroom block of 10,000 sq. ft. and other works. Architects are Peter Warren & Roydon Cooper of Georgian House, Greenhill, Sherborne.

SKELMERSDALE.—UDC propose erection of 25 dwellings at Church Farm estate.

SLOUGH.—H. W. R. Orr, 18 Fitzroy-st., London, NW1, is the architect for a new crematorium to be built by the BC at Stoke-rd.

SMETHWICK.—BC propose erection of 20 dwellings at Broadmoor house site.

STOCKPORT.—BC propose extension to Goyt Bank sch. for girls for 450 additional pupils.

STOCKTON - ON - TEES.—The British Transport Commission are considering the erection of shops, showrooms, offices etc. . . . The Tees Land Investment Co. have submitted proposals to the planning author-

ities for shops and offices at the junction of Bridge-rd. and Park-ter.

STONE.—Residential development at Stonefields sch. area as proposed by UDC.

SURREY.—South West Metropolitan Regional Hospital Bd. propose occupational theraphy building at Belmont Hospital. . . . CC approved: Erection of gymnasium and dining room at Roseberry county girls sch., Epsom, £21,550 est.; youth centre at Carshalton, £20,000 est.; erection of Addlestone RC prim. sch., £50,511 est.

SUTTON AND CHEAM.—South West Metropolitan Regional Hospital Bd. propose adaptations and extensions to admin. block at Sutton and Cheam Hospital, £22,500 est.

SWINTON & PENDLEBURY.—Aged persons' flatlets are proposed by the BC for Richmond-st., Pendlebury.

TYLDESLEY.—The National Coal Board and the UDC are considering the erection of 500 dwellings for miners.

URMSTON.—UDC are to modernise district heating plant and re-lay mains, covering 400 dwellings at Woodsend estate. Est. £123,000.

WEYBRIDGE (Surrey).—Approval has been given by the Development Control Sub-Committee of Surrey Town and Country Planning Committee to a detailed application for the erection of 36 houses, a three- and five-storey building containing 63 flats and 99 garages. The site is approximately 12.69 acres of land at 90 Oatlands-dr., Weybridge. The development will comprise 400 habitable rooms.

WIGAN.—J. Gaffney and Son (Wigan) Ltd. have been granted permission by Wigan Planning Committee to carry out residential development on land east of Warrington-rd. and south of Marus-ave. . . . The Housing Committee is to build 47 houses for private sale, costing £86,140, in Tunstall-la., Pemberton.

WINDSOR.—BC propose erection of new swimming pool at Clewer Mead.

WORSLEY.—Lancs. CC propose erection of home for 50 aged persons.

TENDERS

(A) Denotes *accepted*.
(PA) Denotes *provisionally accepted*.
(RA) Denotes *recommended for acceptance*.
(AM) Denotes *accepted subject to modification*.
(GD) Denotes *accepted subject to approval by appropriate Government Department*.

AMERSHAM.—New physics laboratory and general services building at radio and chemical centre for UKAEA. (A) W. & C. French Ltd., Buckhurst Hill, Essex.

BRISTOL.—New supermarket and offices at High-st. for Paulday Investments Ltd. (A) Graham Builders Ltd., 23 Allensbank-rd., Cardiff.

CARLISLE.—New dermatology unit at Cumberland Infirmary for Newcastle Regional Hospital Bd. (A) J. Millar & Sons, £22,359.

CRANBROOK.—Erection of 47 'Homeville' dwellings at Sissinghurst, Hawkhurst and Freight for RDC. (A) Wm. Ellis (Etchingham), Sussex.

DURHAM & NORTHUMBERLAND.—New vehicular tunnel between Jarrow and Howdon under the River Tyne, for CC's Mott, Hay & Anderson, constg. engrs. (A) Edmund Nuttall, Sons & Co. (London) Ltd.

EBBW VALE.—Erection of 254 dwellings, and shops at Rassau, Beaufort, for UDC. (A) Wilson Lovatt & Sons Ltd., Wolverhampton.

FLEETWOOD.—Shop and supermarket at Lord-st. for Commercial and General Investments (Fleetwood) Ltd. (A) F. Parkinson Ltd., Blackpool.

GATESHEAD.—Factory additions at Team Valley trading estate for Kavli Ltd., cheese manufacturers, etc. Architects: J. Walton Taylor & Son, St. James-bldgs., Gallowgate, Newcastle-on-Tyne. (A) John Jackson & Sons, Corporation-st., Newcastle-on-Tyne (work in hand). Erection of offices, caretaker's flat and warehouse, at Earlsway, Team Valley trading estate, Gateshead, for Walter Willson Ltd., grocers, etc., Groat Market, Newcastle-on-Tyne. Architect: C. S. Errington, 46 Grainger-st., Newcastle-on-Tyne. (A) Brims & Co. Ltd., Pandon-bldgs., City-rd., Newcastle-on-Tyne.

HAMMERSMITH.—Erection of a nine-storey office block at Willow Bank, Putney, for Dynamic Property Investments Ltd. Architects: R. Seifert & Ptnrs. (A) G. Wimpey & Co. Ltd., £376,000.

HEMEL HEMPSTEAD.—New distribution depot and office block at Swallowdale-rd. for Kodak Ltd. (RA) J. Jarvis & Sons Ltd., London.

HEREFORD.—Extensions to premises, comprising new production and storage and a two-storey office block, at Holmer-rd. for Denco Engineering Services Ltd. Architects: R. J. A. Wilson & McMillan, Hereford. (A) Wilson Lovatt & Sons Ltd., £60,000 (approx.).

HEREFORDSHIRE.—Erection of two-form sec. entry schools at Weobley and Wigmore for CC County A is W. Usher. (A) William Powell & Sons (Builders) Ltd., Whitehorse-st., Hereford, and Hiles & Mussell, 'Yranarg,' Lower Bullingham, Hereford, respectively.

HIGH WYCOMBE.—Erection of factory at Coronation-rd. (A) Y. J. Lovell & Sons Ltd., Gerrards Cross. Erection of 21 aged persons' bungalows at Barry Lodge site, Booker, for BC. (A) F. Andrews & Son Ltd., Princes Risborough, £33,850 (in lieu of previous tender).

LEEDS.—Erection of proposed Cross Green sec. sch. for EC. (A) M. Harrison & Co. (Leeds) Ltd., £520,032.

LIVERPOOL.—New shopping centre at Liverpool-rd. north, Maghull, for Ravenseft Properties Ltd., London. (A) Holland & Hannen and Cubitts (Gt. Britain) Ltd.

(GD) LONDON (Air Ministry).—Contracts to the value of £4,000 or over for week ended August 25: *Building work:* US Field Station, Harrogate, Yorks.; Charles R. Price, Barnsley-rd., Doncaster, Yorks, Cranwell, Lincs.; Bosworth, Wakeford & Stepnell Ltd., Rugby, Warwickshire. *Concrete construction pile foundations etc.:* Ringstead, Dorset; Soil Mechanics Ltd., 65 Old Church-st., London, SW3. *Resurfacing of existing camp roads etc:* Lakenheath, Suffolk; Ayton Asphalte Co. Ltd., Wymondham, Norfolk. *Artificers' work:* Acklington (Northumberland) etc.; R. Carse & Son Ltd., Amble, Northumberland. Langtoft, Rutland; Bettles Building Co. Ltd., Peterborough, Northants. Menwith Hill, Harrogate; Arthur Stephenson (Harrogate) Ltd., Harrogate, Yorks. Hartlebury, Worcestershire; Perry & Williamson Ltd., St. Marks-rd., Wolverhampton, Wittering, Northants, etc.; A. Tailby & Son Ltd., Station-rd., Desborough, Kettering, Northants. Bawtry, Yorks.; G. G. Middleton & Son Ltd., Gateford-rd., Worksop, Notts. Little Rissington (Glos.) etc. and Hullavington (Wilts.); Stanley V. Davis Ltd., Fifield, Oxfordshire.

(GD) LONDON (MoW).—Contracts placed for week ended August 19, 1961: *Cardiganshire:* Installation of data cables at Royal Aircraft Est., Aberporth; British Insulated Callender's Cables Ltd., PO Box 108, 30 Leicester-sq., WC2. *Durham:* Erection of telephone exchange at Bishop Auckland; G. Stephenson (Builders and Contractors) Ltd., Holdforth Works, St. Andrew's-palace, Bishop Auckland. *Fifeshire:* Erection of Post Office at High-st., Burntisland; John Best (Contractors) Ltd., 13 Meldrum-rd., Kirkcaldy. *Hants:* Erection of branch Post Office at Derby-rd., Portsmouth; Samuel Salter (Portsmouth) Ltd., 227/229 Goldsmith-ave., Southsea. Additional switchgear at Royal Air Force Estab., Farnborough; A. Reyrolle and Co. Ltd., Hebburn, Co. Durham. *London:* Extension and conversion of direct labour depot at Victoria & Albert Museum, South Kensington, SW7; John Greenwood Ltd., King William Street House, Arthur-st., EC4. Provision of new branch Post Office at Post Office, Streatham Hill, SW2; Walker Clinging & Co., 16 Perry Hill, Catford, SE6. *Renfrewshire:* Erection of new staff canteen at Royal Ordnance Factory, Bishopton; Spiers, Dick and Smith Ltd., 10-26 Paul-st., Glasgow, C4. *Surrey:* Alterations to welfare accommodation at telephone exchange, Scarbrook-rd., Croydon; Herbert & Herbert, 155 Clapham Park-rd., SW4. *Sussex:* Provision of temporary public office at Post Office, Boundary-rd., Hove; R. A. Gates Ltd., 44 Brunswick-rd., Shoreham. *Warwickshire:* Alterations and adaptations to Inland Revenue office, Lancaster-hse., Newhall-st., Birmingham; David Charles Ltd., 45 Green-la., Birmingham 9. *Yorks:* Internal painting to Home Office, Portobello-rd., Wakefield; R. H. Birdsall & Son, Lime-gr., Hill Top, Knottingley.

(GD) LONDON (War Dept.).—Contracts placed for week ended Aug. 4: *Berkshire:* Building at Arborfield; Darshot Ltd., London, N13. Kitchen equipment at Arborfield; Regional Manufacturing Co. Ltd., London, W2. *Cumberland:* Earthworks at Longtown; Eden Construction Co. Ltd., Carlisle. *Devon:* Heating at Plymouth; Harris Construction Co. Ltd., Bristol. *Dorset:* Dam extension at Bovington Camp; G. & G. F. Maidment (Poole) Ltd., Parkstone. *Essex:* Roadwork at Colchester: H. V. Smith & Co. Ltd., London, SW1. *Hampshire:* Building at Aldershot; J. B. Edwards & Co. (Whyteleafe) Ltd., Kenley. Kent: Playing fields at Dover; Bryan Wattridge (Public Works) Ltd., Farnham. *Nottinghamshire:* Roadwork at Chilwell; Derby Pavings, Derby. *Wiltshire:* Painting at Bulford and Salisbury area; M. A. A. Appleton (Contractors) Ltd., Wolverhampton. *Yorkshire:* Roadwork at Catterick Camp; W. & J. Glossor Ltd., York. Painting and decorating at Ripon; Donald Humberstone & Co. Ltd., Louth.

MACCLESFIELD.—Erection of 60 dwellings at Weston estate for BC. (A) Langley Bros., Stoke-on-Trent, £98,219 (negotiated).

MAIDSTONE.—Erection of a multi-storey car park at Medway-st. for BC. (A) Sir Robert McAlpine & Sons, £100,000.

MANCHESTER.—New warehouse and offices at Oldham-rd., Ancoats, for F. W. Buckenham Ltd. (A) Jones & Rawlinson Ltd.

MARPLE.—Erection of 12 'Homeville' flats at Ernocroft for UDC. (A) Manor Park (Glossop) Bldrs. Ltd.

NANTWICH.—New employment exchange at Wellington-rd. for Ministry of Labour. (A) J. H. Molyneux (Northwich) Ltd.

NOTTINGHAM.—New infants' sch. at Gladehill for TC. (A) G. A. Pillatt & Son Ltd., £47,079. Additions and alterations at Blenheim sec. sch. for TC. (A) A. F. Houfton & Co. Ltd. Office, shops and petrol filling station at Mansfield-rd. for Cranleigh Group Ltd., Manchester. (A) Richard Costain (Construction) Ltd.

ORMSKIRK.—Erection of the Yew Tree hotel, Grimshaw-la., for Higson's Brewery Ltd. (A) J. B. Johnson & Co. Ltd., Liverpool.

OUNDLE.—Erection of 12 'Homeville' bungalows at Inkerman Yard for UDC. (A) A. J. C. Potter & Sons Ltd., Northants.

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at Cowley Town Centre for TC. (A) Kyle Stewart (Contractors) Ltd., Wembley Park, London, £150,000 (approx.). Erection of 53 houses and 6 garages at Blackbird Leys estate for TC. (A) John Laing & Son Ltd., London, £115,993. New law library, English faculty library and Institute of Statistics at Manor-rd., Holywell, for the Senate of the University. (A) Wm. Sindall Ltd., 347 Cherryhinton-rd., Cambridge (lowest tender).

PONTEFRACT.—Erection of 34 dwellings, communal buildings and road and sewer works at Mill Hill for BC. (A) J. Grice & Son.

PONTELAND (Northumberland).—Erection of printing works for Messrs. C. A. Macdonald Ltd., Shields-rd., Newcastle-on-Tyne. Architects: Stephenson, Gillis and Ptnrs., Saville-chbrs., North-st., Newcastle-on-Tyne. (A) Graham and Son, Forest Hall, Newcastle-on-Tyne (work about to commence).

ST. HELENS.—Reconstruction of Theatre Royal for Pilkington Bros. Ltd. (A) Holland & Hannen and Cubitts (North West) Ltd.

STOCKPORT.—New county sec. sch. at Frewland-ave. for BC. F. J. Gibson (Builder) Ltd., £179,950. Erection of an 8-storey block with 2-storey assembly block at College of Further Education for BC. (A) Tersons Ltd., London, £459,866.

STOKE-ON-TRENT.—New single-storey factory and two-storey office block as additional work for premises at Kidsgrove-wks. of the English Electric Co. Ltd. (A) Taylor Woodrow Construction Ltd., £300,000.

WANDSWORTH.—Erection of 56 flats, 16 maisonettes, eight houses, etc. at William Willison estate, West Hill site, for MBC. Architects: Sir Lancelot Keay, Basil G. Duckett & Ptnrs. (A) Pauling & Co. Ltd., London, W1. £245.832. Erection of 308 dwellings, etc., at Edgecombe Hall site for MBC. Architects: Clifford Culpin & Ptnrs. (A) Pauling & Co. Ltd., £1,177,666.

WELLINGTON.—Erection of two multi-storey blocks of 104 dwellings at Dothill estate for UDC. (A) John Laing & Son Ltd.

WIDNES.—Erection of 11 dwellings at Abbey-rd. for BC. (A) Clough & Gaskell Ltd., Wigan. £20,866.

WOLVERHAMPTON.—Erection of ground floor shops and offices above for the Norwich Union Insurance Societies. Architects: Ardin & Brookes & Ptnrs., London. (A) Wilson Lovatt & Sons Ltd., £133,000.

WORSLEY.—Extensions to works of Schweppes (Home) Ltd. (A) John Laing & Son Ltd.

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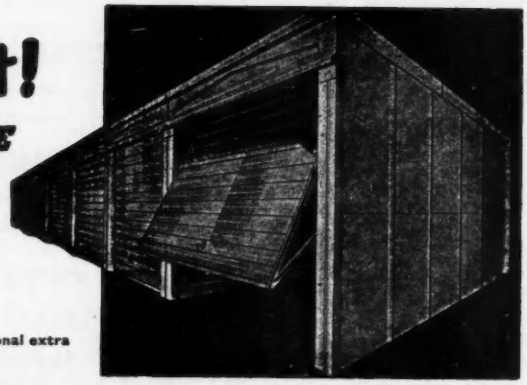

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